# All Active Systems Report

Name: 4-D Weather Cube

Acronym: 4-D WX Cube

Description: The 4-D Wx Cube is a shared, four-dimensional (three spatial dimensions and time) virtual database of weather information. It contains all relevant aviation weather information (e.g., observations, automated gridded products, models, climatological data, and human-produced forecasts from both public and private sources). The 4-D Wx Cube is composed of text, graphic, and machine-readable products, and contains proprietary products and those in the public domain, including both domestic and foreign weather information. The implementation of the 4-D Wx Cube and its utilization by NAS users' applications in an operational manner is the essence of NextGen weather capabilities.

During initial implementation of SWIM segments, the 4-D Wx Cube may interface directly to some sensors, processors (e.g., NextGen Wx Processor (WP1) that will extract weather information [for processing]), or to display systems until the various SWIM segments are fully implemented to subsume that functionality.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 792 / 4

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Name: 4-D Weather Single Authoritative Source

Acronym: 4-D Wx SAS

Description: The 4-D Wx SAS has three characteristics: 1) includes current observations, interpolated current conditions, climatology, and predictions (forecasts) of future conditions; 2) supports probabilistic decision aids; and 3) provides a seamless, consistent common weather picture for integration into operational decisions that is available to all ATM decision makers.

The 4-D Wx SAS is a distributed virtual source of weather information. It is not a single physical source [of weather information] but is distributed among multiple physical locations and suppliers. While part of the 4-D Weather Cube, the primary function of the 4-D Wx SAS will be to provide operational decision makers with an integrated common weather picture in user specified spatial and temporal resolution enabling integration into users' DST (decision support tools), which then determines the impacts of weather on users' operations. This enables them to more efficiently mitigate weather impacts through collaboration and plan routing/re-routing of air traffic in advance of the weather event.

Additional details of the 4-D Wx SAS are available from the '4-D Weather Functional Requirements for NextGen Air Traffic Management', the NextGen Concept of Operations (ConOps) v2.0, the NextGen Weather ConOps v2.0, and the NextGen Weather Policy and Recommendations v0.1.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Mar-2010 by Keith Talbert

ID / Revision: 793 / 6

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Name: ARTS III-A MSAW Validation

Acronym: A3MV

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 966 / 1

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Name: Advanced Dynamic Airspace Management

Acronym: ADAM

Description: ADAM 1 manages airspace data and facilitates digital data exchange through a Service Oriented Architecture (SOA) and exchange of data through web services within AIM. ADAM will employ a common data model [i.e., Aeronautical Information Exchange Model (AIXM)] and a common architecture to improve data quality and standardization among, for example, such airspace sector management applications as Sector Design and Analysis Tool (SDAT), Temporary Flight Restriction (TFR) Builder and iOEAAA.

ADAM 1 will encompass (a) Advanced Dynamic Airspace Management, which will reserve, deconflict, manage and distribute altitude reservations (Formerly CARF), (b) TFR and (c) Create Airspace.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 857 / 8

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Name: Advanced Electronic Flight Strip

Acronym: AEFS

Description: The Advanced Electronic Flight Strip (AEFS) system is only at the Chicago O'Hare Int. Airport Traffic Control Tower (ATCT), ICAO Code KORD, and at the Chicago Terminal Radar Approach Control (TRACON) facility. It provides digitized flight progress information; prototyping an electronic flight strip capability.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 689 / 5

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Name: Advanced Technologies and Oceanic Procedures

Acronym: ATOP

Description: The Advanced Technologies and Oceanic Procedures (ATOP) program replaced oceanic air traffic control systems and procedures and modernized the Air Route Traffic Control Center (ARTCC) facilities at Oakland, New York, and Anchorage. The ATOP program fully integrated flight and radar data processing, detects conflicts between aircraft, provides data link and surveillance capabilities, and automated the manual processes used previously. ATOP also reduced the workload on controllers through the use of electronic flight strips instead of the paper strip method used for decades to track trans- oceanic aircraft.

ATOP achieved full operating capability (FOC) at the New York, Oakland, and Anchorage ARTCCs in March 2005, October 2005, and April 2007, respectively.

The program provided the FAA the automation, Automatic Dependent Surveillance-Contract (ADS-C), and conflict resolution capability required to reduce aircraft separation from 100 nautical miles (nm) to 30 nm. ATOP also allows the FAA to meet international commitments and helps the FAA avoid losing delegated airspace used by air carriers and military flights.

Since the ATOP hardware was procured in 2001 many components have reached end of life. The present contract has provisions for technology refresh in FY 2008 to initiate ATOP hardware technology refresh at the FAA William J. Hughes Technical Center (WJHTC) and Oakland Air Route Traffic Control Center (ARTCC). This is part of the plan to implement a total system upgrade midway through the planned ATOP system life cycle. The refresh is scheduled to replace operating systems and all major system components (e.g., servers, workstations, communications switches, and interface gateways) with state-of-the-art components available at that time.

The technology refresh is planned for 2008-2009.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 325 / 8

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Name: Advanced Technologies and Oceanic Procedures : NextGen ATOP/Offshore Automation

Acronym: ATOP-NG

Description: Advanced Technologies and Oceanic Procedures (ATOP) allows the FAA to discontinue the use of the difficult communications and intensively manual processes that limit controller flexibility in handling airline requests for more efficient tracks over long oceanic routes. ATOP fully integrates flight and radar data processing, detects conflicts between aircraft, provides data link and surveillance capabilities, and automates the previous manual processes. The program provides the automation, Automatic Dependent Surveillance-Contract (ADS-C), and conflict resolution capability required to reduce oceanic aircraft separation from 100 nautical miles to 30 nautical miles. The Advanced Technologies and Oceanic Procedures NextGen (ATOP-NG) project will facilitate seamless aircraft transitions and data transfers between domestic and oceanic airspace by adding MEARTS software to the system for radar processing.

This mechanism is funded through the Oceanic Automation System program with Facilities and Equipment (F&E) dollars out to FY 2013 according to the Aug 2008 NAS Capital Investment Plan (CIP).

State: Planned

Primary Roadmap: Automation

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| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 518 / 8 |

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|---|---|
| Name: | Advanced Vision System |
| Acronym: | Advanced Vision System |
| Description: | Advanced Vision Systems are new technologies that enhance a pilots understanding and situation awareness of their flying environment. |
| State: | Planned |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Oceanic, Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 904 / 5 |

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|---|---|
| Name: | Aeronautical Information Management Modernization |
| Acronym: | AIM Mod'zn |
| Description: | Aeronautical Information Management (AIM) Modernization Segment 3 continues with the integration of Aeronautical Information (AI) capabilities of AIM Modernization Segment 2 with the addition of airspace design and analysis products. Capabilities and interfaces will also be extended to comply with SWIM Segment 3 Governance and to uplink AI to suitably equipped aircraft using the Aeronautical Telecommunication Network (ATN), Next Generation Air/Ground Communications (NEXCOM), Satellite Communications, or Flight Information Service-Broadcast (FIS-B) via Ground Based Transceivers (GBT). Funding has not been forecast for AIM Modernization Segment 3. |
| State: | Planned |
| Primary Roadmap: | Automation |

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|---|---|
| Secondary Roadmap(s): | Enterprise Services<br>Safety |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 736 / 12 |

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|---|---|
| Name: | Aeronautical Information Production Automation |
| Acronym: | AIPA |
| Description: | Aeronautical Information Production Automation (AIPA) is used by the National Aeronautical Charting Group (NACG) to maintain, publish and distribute United States government civil aeronautical charts and flight information publications.<br><br>NACO is also responsible for the public distribution of National Oceanic and Atmospheric Administration/National Ocean Service (NOAA/NOS) U.S. nautical charts and National Geospatial-Intelligence Agency (NGA) worldwide aeronautical and hydrographic charts and publications. Agents who sell charts and publications of foreign areas are so indicated in the NACO listing. Because the FAA publishes a wide variety of items, not all will be readily available locally. The local agent may place a special order for the interested buyer or he/she may order directly from the FAA.<br><br>It should be noted that the USE OF OBSOLETE CHARTS OR PUBLICATIONS FOR NAVIGATION MAY BE DANGEROUS. Aeronautical information changes rapidly, and it is vitally important that pilots check the effective dates on each aeronautical chart and publication to be used. Obsolete charts and publications should be discarded and replaced by current editions. To make certain a chart or publication is current, refer to the next scheduled edition date printed on the cover or consult the Dates of Latest Editions. Pilots should also consult the Aeronautical Chart Bulletin available online or contained in an Airport/Facility Directory and Notice to Airmen (NOTAMs) for changes, essential to the safety of flight, that may occur during the effective dates of a chart or publication.<br><br>NACO is located in Silver Spring, Maryland. Additional information: URL http://www.naco.faa.gov/ |
| State: | Not Set |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 482 / 2 |

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|---|---|
| Name: | Aeronautical Information System Modernization : Future Briefing System |

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|---|---|
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 905 / 5 |

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|---|---|
| Name: | Aeronautical Information System Replacement |
| Acronym: | AISR |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 23-Apr-2010 by Steve Amato |
| ID / Revision: | 906 / 6 |

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|---|---|
| Name: | Aeronautical Navigation Database System |
| Acronym: | ANDS |
| Description: | TBD |

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 960 / 1

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Name: Aeronautical Telecommunication Network Air to Ground Router

Acronym: ATN A/G Router

Description: The ATN Air-to-Ground (A/G) Router is used to provide A/G interconnection between an Aeronautical Telecommunication Network (ATN) Airborne Router and an ATN Ground Mobile Subnetwork.

The ATN A/G Router will utilize the ICAO Standards and Recommended Practices (SARPs). The ICAO is currently collaborating on an agreed set of protocol standards for International implementation.

Source: WJHTC ATN ICAO Lead.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 582 / 2

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Name: Aeronautical Telecommunication Network Ground to Ground Router

Acronym: ATN G/G Router

Description: The Aeronautical Telecommunication Network (ATN) is an evolving global data Internet infrastructure developed by the International Civil Aviation Organization (ICAO). The ATN will be comprised of an interconnection of computers with gateways or routers via real sub-networks. This allows the construction of a homogeneous virtual data network in an environment of administrative and technical diversity.

The ATN design allows communications services for different user groups; i.e., Air Traffic Services (ATS), Aeronautical Operational Control (AOC), Aeronautical Administrative Communications (AAC), and Aeronautical Passenger Communications (APC). The design provides for the incorporation of different air-to-ground sub-networks and different ground-to-ground sub-networks (e.g., AFS, Aerospace Medical Certification Subsystem (AMCS)), resulting in a common data transfer service. These two aspects are the basis for interoperability of the ATN and will provide a reliable data transfer service for all users. The design is such that user communications services can be introduced in an evolutionary manner.

The ground-to-ground application adopted by the ICAO member states, the ATS Message Handling System (AMHS), replaced the existing Aeronautical Fixed Telecommunication Network (AFTN) which interfaced with the NADIN Message Switching Network (MSN).

AMHS is currently using the ATN A/G Router in implemented with the Japanese Civil Aviation Bureau (JCAB), and upgrades of AFTN are taking place with Australia, Fiji, New Zealand and other states in the Caribbean/South America (CAR/SAM) region.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 195 / 2

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Name: Aerospace Performance Factors

Acronym: APF

Description: tbd

State: Planned

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 08-Mar-2010 by Cindy Magee

ID / Revision: 907 / 3

Name: Agency Data Telecommunications Network 2000

Acronym: ADTN 2000

Description: The Agency Data Telecommunications Network - 2000 (ADTN 2000) was the FAA's wide area network (WAN) serving over 800 FAA sites and providing dial access for approximately 4000 active remote users. It was used for day-to-day agency business management (e.g. payroll, personnel, and e-mail) and to serve some National Airspace System (NAS) systems/applications designated as mission support.

ADTN 2000 was a private FAA WAN comprised of a high-level network backbone layer and a user access layer. The backbone layer includes nodes at major FAA locations interconnected by Permanent Virtual Circuits (PVC) across a Frame Relay core network. It provides high-speed data transport and alternate path routing among the nodes. The user access layer, which employs the backbone for routing and long haul connectivity, includes user interface equipment and leased circuits between the user end points and the nearest backbone node.

ADTN2000 supports international FAA sites via gateways to a global Virtual Private Network (VPN). Users at four major FAA international offices have dedicated connectivity to the VPN and are automatically routed to the ADTN2000 international gateway. Smaller international sites and individuals have access to ADTN2000 via dial-up service provided by the VPN.

ADTN 2000 has transitioned to the FTI Mission Support Data Services.

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 62 / 2

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Name: Air Route Surveillance Radar : Model 1E

Acronym: ARSR-1E

Description: The Air Route Surveillance Radar Model 1E (ARSR-1E) is based on a 1970s vintage radar that has been updated through Service Life Extension Program (SLEP). It is a long-range radar system with a maximum detection range of 200 nautical miles (nmi). The ARSR-1E is a surveillance system used to detect azimuth and slant range of en route aircraft operating between terminal areas. It also provides weather intensity data. ARSR-1 and ARSR-1D are similar configurations to the ARSR-1E. The ARSR-1E is interface to a collocated Common Digitizer Model 1/2 (CD-1/CD-2) or other digital processor which provides digitized output.

The ARSR-1E is integrated with a collocated ATCBI-6 or Mode S beacon to provide correlated target output data. Twenty-two ARSR-1E systems are collocated with ATCBI-6 and three are collocated with Mode S systems.

These are legacy FAA and DOD systems that are now owned by DOD. The FAA will participate in maintenance and staffing. These systems are likely to be replaced by DOD if decommissioned.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 124 / 8

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Name: Air Route Surveillance Radar : Model 2

Acronym: ARSR-2

Description: The Air Route Surveillance Radar Model 2 (ARSR-2) is based on 1970s vintage radar that has been updated through Service Life Extension Program (SLEP). It is a long-range radar system with a maximum detection range of 200 nautical miles (nmi). The ARSR-2 is a surveillance system used to detect azimuth and slant range of en route aircraft operating between terminal areas. It also provides weather intensity data. The ARSR-2 is interface to a collocated Common Digitizer Model 1/2 (CD-1/2) or other digital processor which provides digitized output.

The ARSR-2 is integrated with a collocated ATCBI-6 and Mode S beacon to provide correlated target output data. Eighteen ARSR-2 radars provide service to the NAS. These systems are owned by DOD with maintenance support from the FAA. The ARSR-2 service will be sustained until 2025.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 125 / 8

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Name: Air Route Surveillance Radar : Model 3

Acronym: ARSR-3

Description: The Air Route Surveillance Radar Model 3 (ARSR-3) is 1980s radar that provides primary long-range surveillance data, including slant range and azimuth data. It processes the returns which includes demodulation, analog-to-digital conversion, moving target indicator (MTI) function processing, sensitivity time control (STC), range and azimuth gating (RAG), and digital target extraction - all of which are performed digitally (with the exception of the front-end RF demodulation and analog-to-digital conversion). In addition, the ARSR-3 has a weather channel with associated processing to provide three-level weather intensity contour information in digital format.

Twelve ARSR-3 systems are integrated with a collocated ATCBI-6 or ATCBI-5 beacon system to provide correlated target output data. Primary radar service in the affected coverage areas will be sustained until 2027 by DOD unless a decision is made to replace them with new surveillance systems. The FAA will provide maintenance support.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 113 / 8

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Name: Air Route Surveillance Radar : Model 4

Acronym: ARSR-4

Description: The Air Route Surveillance Radar Model 4 (ARSR-4) is a three-dimensional, long-range, rotating phased array, primary surveillance radar with integrated height finder capability. It is part of the Joint Surveillance System (JSS) that is used in conjunction with ARSR-1, ARSR-2 and ARSR-3, to provide coverage as part of the National Airspace System (NAS) and nationwide air defense surveillance network. The ARSR-4 performs the functions as other ARSR radars for the FAA. ARSR-4 also satisfies DOD specific requirements for providing height data on surveillance targets. The ARSR-4 outputs weather intensity contour data formatted in up to six levels of intensity.

The ARSR-4 is integrated with a collocated Air Traffic Control Beacon Interrogator Model 5 (ATCBI-5) or ATCBI-6 beacon systems to provide correlated target output data. ARSR-4 is not currently collocated with Mode Select (Mode S) systems.

Forty-one (41) ARSR-4 systems provide service to the NAS. Two additional systems are owned by DOD and do not interface to the NAS. One support system is installed at the FAA Logistics Center. ARSR-4 systems are funded by DOD and FAA with providing FAA maintenance support. Plans are to sustain the ARSR-4 up to 2025 unless a decision is made to procure replacement systems through DOD earlier.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 114 / 7

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Name: Air Traffic Control Beacon Interrogator : Model 3

Acronym: ATCBI-3

Description: The Air Traffic Control Beacon Interrogator-Model 3 (ATCBI-3) is an air traffic control beacon system that interrogates transponder-equipped aircraft. It provides, through a secondary radar system, interrogation of transponders and reception of aircraft identification and position data.

ATCBI-3s incorporated 1950s tube technology, and all were decommissioned by the late 1990s as a result of Mode Select (Mode S) deployments and ATCBI-4/5 relocations.

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 127 / 2

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Name: Air Traffic Control Beacon Interrogator : Model 4

Acronym: ATCBI-4

Description: The Air Traffic Control Beacon Interrogator-Model 4 (ATCBI-4) is an air traffic control (ATC) beacon system that interrogates transponder-equipped aircraft. It is a secondary radar system that interrogates transponders, receives aircraft identification, and determines position data.

All ATCBI-4 beacon systems will be removed from the NAS by 2011. The ATCBI-4 systems will be decommissioned and/or replaced by ATCBI-5, ATCBI-6 or Mode S system.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): Terminal

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 121 / 11

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Name: Air Traffic Control Beacon Interrogator : Model 5

Acronym: ATCBI-4/5

Description: The Air Traffic Control Beacon Interrogator Model 5 (ATCBI-5) and ATCBI-4 are air traffic control (ATC) beacon systems that interrogate transponder-equipped aircraft. These are secondary radar systems that interrogate aircraft transponders to acquire Mode 3A aircraft identification codes and Mode C altitude information codes. The ATCBI-4/5 output this data in shaped-pulse video form to a collocated primary radar or separate digitizer processor for digital target correlation processing. This collocated processor determines the aircraft Mode 3/A identification and position data in terms of radial range, azimuth and altimeter altitude data reported in Mode C.

After deployment of the ATCBI-6 systems in 2011, all ATCBI-4 and ATCBI-5 systems will be removed from the en route sites. ATCBI-5 systems will be relocated to terminal radar sites to replace ATCBI-4 beacon systems. A small number of ATCBI-4 and ATCBI-5 systems remain in the NAS. These systems will eventually be replaced by an ATCBI-6 or a New Beacon system.

ATCBI-5 systems will be evaluated for potential Service Life Extension as prt of a "Surveillance Interface Modernization". There will be a limited decommissioning of remaining ATCBI-5 systems after ADS-B Rule Compliance in mandated.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): None

Flight Domain(s): En Route, Terminal

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 122 / 11

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Name: Air Traffic Control Beacon Interrogator : Model 6

Acronym: ATCBI-6

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|---|---|
| Description: | The Air Traffic Control Beacon Interrogator Model 6 (ATCBI-6) is a ground-based system that interrogates transponders, receives, and processes replies from transponders, determines the range and azimuth to the aircraft, and forwards the information to appropriate air traffic control (ATC) automation systems. Replies provide identification and altitude data of the transponder. The ATCBI-6 Replacement Program will procure about 140 Monopulse Secondary Surveillance Radar (MSSR) with Selective Interrogation (SI) to replace existing operational beacons, which includes four support systems (not shown in the quantities below) for training, testing, logistics, and operational support.<br><br>As of December 2008, 137 ATCBI-6 systems had been delivered with 135 delivered to sites and 118 commissioned. One hundred and two (102) legacy ATCBI systems have been removed.<br><br>The ATCBI-6 will replace all ATCBI-4 and ATCBI-5 systems at NAS en route facilities. All ATCBI-4 systems will be out of the NAS by the end of 2007. ATCBI-5 systems will be moved to terminal or beacon only site (BOS) facilities. |
| State: | In-Service |
| Primary Roadmap: | Surveillance |
| Secondary Roadmap(s): | Facilities<br>Surveillance |
| Flight Domain(s): | En Route |
| Update Date: | 29-Jan-2010 by James Grant |
| ID / Revision: | 146 / 12 |

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|---|---|
| Name: | Air Traffic Quality Assurance |
| Acronym: | ATQA |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Safety |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 08-Mar-2010 by Cindy Magee |
| ID / Revision: | 908 / 3 |

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Name: Air Traffic Safety Action Program

Acronym: ATSAP

Description: The Air Traffic Safety Action Program (ATSAP) is a web based system managed under the Safety Management System Program for Controllers and Other Employees to voluntarily identify and report safety and operational concerns. The collected information is reviewed and analyzed to facilitate early detection and improved awareness of operational deficiencies and adverse trends. The information specified in employee reports is used to identify the root causes and determine appropriate remedial actions which are then monitored for effectiveness. This process promotes collaboration between employee work groups and management for the early identification of hazards and to maintain a proactive approach regarding safety concerns and corrective action recommendations.

State: In-Service

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 08-Mar-2010 by Cindy Magee

ID / Revision: 901 / 4

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Name: Airborne Flight Management System

Acronym: FMS (Airborne)

Description: A flight management system is a fundamental part of a modern aircraft in that it controls the navigation. The flight management system (FMS) (Airborne) is the avionics that holds the flight plan, and allows the pilot to modify as required in flight. The FMS uses various sensors to determine the aircraft's position. Given the position and the flight plan, the FMS guides the aircraft along the flight plan. The FMS is normally controlled through a small screen and a keyboard. The FMS sends the flight plan for display on the electronic flight instrument system (EFIS), Navigation Display (ND) or MultiFuction Display (MFD).

All FMS contain a navigation database that contains the elements from which the flight plan is constructed. These are defined via the ARINC 424 standard. Each FMS contains only a subset of the ARINC data, relevant to the capabilities of the FMS. Given the flight plan and the aircraft's position, the FMS calculates the course to follow. The pilot can follow this course manually (much like following a VOR radial), or the autopilot can be set to follow the course.

Once in flight, a principal task of the FMS is to determine the aircraft's position and the accuracy of that position. The FMS mode is normally called LNAV or lateral navigation for the lateral flight plan and VNAV or vertical navigation for the vertical flight plan. LNAV provides roll steering command to the autopilot and VNAV provides speed/altitude targets to the autopilot.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

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|---|---|
| Flight Domain(s): | None |
| Update Date: | 05-Mar-2010 by Cindy Magee |
| ID / Revision: | 874 / 3 |

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|---|---|
| Name: | Airborne HF Radio |
| Acronym: | HF Airborne Radios |
| Description: | High Frequency (HF) Airborne Radios are analog (HF multi-channel radio transceivers operating in the 2-30 MHz frequency band installed in airborne commercial, cargo, and military aircraft transiting the oceanic, en route, terminal, or flight service station airspace domains. These transceivers are typically used in transoceanic applications. |
| State: | In-Service |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Oceanic, Surface, TFM, Terminal |
| Update Date: | 18-Mar-2010 by James Grant |
| ID / Revision: | 213 / 7 |

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|---|---|
| Name: | Airborne High Frequency Data Link |
| Acronym: | tbd |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Oceanic, Surface, TFM, Terminal |

Update Date: 18-Mar-2010 by James Grant

ID / Revision: 909 / 5

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Name: Airborne Laboratories: Regional Commuter

Acronym: Airborne Labs RC

Description: TBD

State: Planned

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 23-Apr-2010 by Steve Amato

ID / Revision: 998 / 2

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Name: Airborne Satellite Telecommunications Data Link

Acronym: SATCOM DL

Description: Oceanic Centers have the option to utilize Satellite Telecommunications Data Link (SATCOM DL) from a Commercial Communications Service Provider to transfer data between ground stations and aircraft. For this service, the FAA contracts for the satellite communications service and the aviation community contracts for the Future Air Navigation System 1/A (FANS-1/A) applications service delivery in the Oceanic domain.

The FAA has no plans to develop its own SATCOM air-to-ground communications system.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Oceanic, TFM

Update Date: 18-Mar-2010 by James Grant

ID / Revision: 251 / 7

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Name: Airborne UHF Radio

Acronym: UHF Airborne Radios

Description: The Ultra High Frequency Avionics (UHF Avionics) are analog, ultra high frequency, amplitude modulation (UHF - AM) radio devices operating in the 225-400 MHz frequency band, which are multi-channel transceivers, installed in an airborne military platform. These airborne devices support the tactical two-way voice communications/coordination between the military pilot in the military aircraft and the controller on the ground.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 18-Mar-2010 by James Grant

ID / Revision: 381 / 11

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Name: Airborne Ultra High Frequency Data Link

Acronym: Airborne UHF Data Link

Description: Ultra High Frequency Data Link-1 Avionics (UHF Avionics) consist of airborne radios operating in the ultra high frequency (UHF) range that receive and transmit data to between aircraft and ground stations.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 18-Mar-2010 by James Grant

ID / Revision: 910 / 6

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Name: Airborne VHF Radio

Acronym: VHF Airborne Radios

Description: Very High Frequency (VHF) Airborne Radios are analog VHF amplitude modulation (VHF-AM) radio devices operating in the 118-137 MHz frequency band which are multi-channel transceivers installed in an airborne platform (e.g., commercial, cargo, and general aviation aircraft). These airborne devices support the tactical two-way voice communications/coordination between the pilot in the aircraft and the controller on the ground.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 18-Mar-2010 by James Grant

ID / Revision: 183 / 6

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Name: Airborne Very High Frequency Data Link

Acronym: VDL-1 Avionics

Description: Very High Frequency Data Link-1 Avionics (VDL-1 Avionics) consist of airborne radios operating in the very high frequency (VHF) range that receive and transmit data using a low-speed, character-oriented protocol and Carrier Sense Multiple Access (CSMA). Employed for use with the Aircraft Communications Addressing and Reporting System (ACARS).

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 18-Mar-2010 by James Grant

ID / Revision: 166 / 6

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Name: Aircraft Wx Sensors

Acronym: AWS

Description: Aircraft Weather Sensors (AWS) - Modern jetliners are equipped with weather sensors and automatically downlink weather data via the Aircraft Communication and Reporting System (ACARS)/Meteorological Data Collection and Reporting System (MDCRS) to the National Weather Service (NWS), for use in weather models, and to the FAA, for use by the Integrated Terminal Weather System (ITWS). These weather sensors currently provide wind and temperature data, and in the near future will provide humidity and turbulence data.

Enhanced weather aircraft observations, including humidity, icing and turbulence sensing and lower troposphere aircraft weather observations, may provide new aircraft sensors capabilities. This upgrade relates only to Part 121 aircraft.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 08-Mar-2010 by Cindy Magee

ID / Revision: 450 / 6

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Name: Airline Operation Center Workstation

Acronym: AOC Workstation

Description: The Airline Operation Center Workstation (AOC Workstation) represents equipment available to users of the National Airspace system, outside of the FAA, that enables user community meteorologists and dispatchers to receive weather advisories (e.g. International SIGnificant METeorological Information {SIGMETS}, Convective SIGMETS, Non-convective SIGMETS) and other weather products from the National Weather Service (NWS) and other government services through the FAA and/or commercial vendors. In the case of user community dispatchers, the workstation also represents equipment that provides for the exchange of information with the FAA such as bulk flight plan requests, facilitates coordination with the FAA to revise schedules and provide flight cancellations based on FAA-provided data; and aggregate demand lists, arrival rates, and parameters for anticipated traffic management initiatives.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 464 / 2

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Name: Airport Cable Loop

Acronym: tbd

Description: tbd

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 911 / 3

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Name: Airport Movement Area Safety System

Acronym: AMASS

Description: The Airport Movement Area Safety System (AMASS) with Airport Surface Detection Equipment (ASDE) provides controllers with automatically generated visual and aural alerts of potential runway incursions and other potential unsafe conditions. AMASS includes the Terminal Automation Interface Unit (TAIU) that processes arrival flight data from the Terminal Approach Control (TRACON) automation system and beacon target data from the Airport Surveillance Radar (ASR) and generates a track. The track is compared with the movement of aircraft and ground vehicles on the airport surface based upon surveillance data from the Airport Surface Detection Equipment (ASDE-3). AMASS adds to the ASDE-3 by presenting alarms to the tower controllers when evasive action is required. AMASS integrates and displays data from ASDE-3 and the ASR. The FAA has installed AMASS at the nation's top 34 airports.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 112 / 6

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Name: Airport Resource Management Tool

Acronym: ARMT

Description: The Airport Resource Management Tool (ARMT) incorporates flight status data from the Atlanta Surface Movement Advisor (SMA), a prototype developed for use at the Hartsfield-Jackson Atlanta International Airport (KATL) by the National Aeronautics and Space Administration's (NASA) Ames Research Center in conjunction with the FAA and the major airline users at Atlanta. The ARMT gathers additional flight information from the Atlanta Common Automated Radar Terminal System (CARTS) IIIE and the manual scanning of bar coded paper flight strips at the Atlanta Airport Traffic Control Tower (ATCT). This manual bar code scanning is used to produce a near real-time recording of taxi clearance and takeoff clearance times. The ARMT also captures the traffic flow management (TFM) constraints, airport configuration and weather conditions currently in effect. The ARMT prototype system is also in the Potomac TRACON and the Chicago TRACON.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 617 / 6

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Name: Airport Surface Detection Equipment : Model 3

Acronym: ASDE-3

Description: Airport Surface Detection Equipment - Model 3 (ASDE-3) provides primary radar surveillance of aircraft and airport service vehicles on the surface movement area. ASDE-3 is installed at the busiest U.S. airports. Radar monitoring of airport surface operations (ground movements of aircraft and other supporting vehicles) provides an effective means of directing and moving surface traffic. This is especially important during periods of low visibility such as rain, fog, and night operations.

ASDE-3 systems provide airport surface coverage thirty-four (34) airports. The ASDE-3 will undergo a Service Life Extension Program (SLEP) to extend its service life through 2015 (see ASDE-3 SLEP), which will enable it to more effectively support the Airport Movement Area Safety System (AMASS) through this same time period.

ASDE-3 will be maintained with O&M funding until 2022. A decision will be made on removal of surface primary radars in 2014. This will be impacted by security requirements. If a decision is made to remove ASDE-3, the decommissioning will start about 2018 with End of Service planned for 2022.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Safety
Surveillance
Airport

Flight Domain(s): Surface

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 116 / 12

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Name: Airport Surface Detection Equipment : Model X

Acronym: ASDE-X

Description: The Airport Surface Detection Equipment - Model X (ASDE-X) is a modular surface surveillance system capable of processing radar, multilateration, and Automatic Dependent Surveillance-Broadcast (ADS-B) sensor data which provides airport surface surveillance to air traffic controllers. ASDE-X provides low cost surface surveillance for airport areas. Plans are to implement ASDE-X technology at 35 ASDE-3 sites. Three non-operation systems will be installed to support logistics and training.

ASDE-X Technology Refresh and Disposition provides funding for the technology refresh, replacement of obsolete and diminishing source parts and eventual disposition of the 35 operational and three support systems. The technology refresh will be implemented between 2012 and 2016.

Eleven ASDE-X systems are operational as of November 2007. Current plans are for ASDE-X to be operational until 2025. A decision is planned for 2014 as to removal of surface primary radars. This decision will be impacted by evolving air traffic security requirements.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Safety
Surveillance
Airport

Flight Domain(s): Surface

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 264 / 12

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Name: Airport Surveillance Radar - Weather System Processor

Acronym: ASR-WSP

Description: The WSP will provide Airport Traffic Control Tower (ATCT) users with timely and accurate warning (alerts) of hazardous wind shear and microbursts for voice relay to pilots via ground-to-air radio. The WSP will also provide ATCT and Terminal Radar Approach Control (TRACON) users with terminal area thunderstorm cell locations and movement, as well as the location and predicted future position and intensity of wind shifts that may affect airport operations. Users will have two types of displays. A Ribbon Display Terminal (RDT) will provide a runway-specific alphanumeric readout of the location, type, and intensity of wind shear/microburst hazards on or near terminal approach and departure corridors and on airport runways. A Geographical Situation Display (GSD) will depict: 1) the location and extent of local wind shear and microburst events, 2) the location, movement, and future position of thunderstorm cells, 3) the location, extent and future position of gust fronts with an estimate of the wind shift behind the front, and 4) six level precipitation maps. The WSP RDT and GSD displays and the user interface will be designed for commonality of appearance and operation with TDWR displays. The WSP will perform additional processing of precipitation data to reduce false severe weather reports caused by Anomalous Propagation (AP). This improved precipitation data will replace the ASR weather channel output for display on the ATCT and Terminal Radar Approach Control (TRACON) controller displays. The WSP is also equipped to receive the TWIP (Terminal Weather Information for Pilot) capability.

Similar to the TDWR and LLWAS-RS, the WSP will be affected by the decision to continue, or not, to continue to field a ground-based wind shear capability (see DP84 in NextGen Wx Roadmap) around 2017.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 133 / 13

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Name: Airport Surveillance Radar : Military

Acronym: GPN-20

Description: The GPN-20 radar is a military short-range (60 nautical miles (nmi)) analog radar system used to detect and report the presence and location of aircraft in a specific volume of airspace. The GPN-20 is the military version of the FAA's Airport Surveillance Radar Model 8 (ASR-8). It is used in conjunction with the TPX-42 military beacon (identify friend or foe (IFF)) or Air Traffic Control Beacon Interrogator model 5 (ATCBI-5) or ATCBI-4. The GPN-20 and collocated beacon may output surveillance data on separate analog outputs. A Common Digitizer Model 2 (CD-2) digitizing processor is integrated at some sites to provide a correlated primary/secondary target report.

DOD is currently deploying the Digital Airport Surveillance Radar (DASR) to replace the aging GPN-20 radars. The DOD replacement schedule may be is not available. DASR systems are addressed in MID 2004.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 337 / 5

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Name: Airport Surveillance Radar : Model 11

Acronym: ASR-11

Description: The Airport Surveillance Radar Model 11 (ASR-11) is a short-range digital, integrated primary and secondary surveillance radar (SSR) radar system with a 60 nautical mile (nmi) detection range. It is being installed at low to medium activity airport terminal areas. The ASR-11 provides surveillance coverage in terminal areas and as en route coverage gap filler.

The ASR-11 provides Moving Target Detection (MTD) processing for primary radar targets, monopulse SSR processing for beacon targets and weather intensity mapping. The system outputs correlated radar/beacon target reports and weather maps, in two or six intensity levels, to support air traffic control operations.

Seventy-two (72) ASR-11 systems are being procured including 65 FAA operational systems, five DOD operational systems and two support systems. The ASR-11 systems will replace all legacy ASR-7 systems and 28 ASR-8 systems. Effective October 2007, 34 sites are commissioned and operational in the National Airspace System (NAS). All 66 FAA systems have been procured and the remaining 32 systems are scheduled to be commissioned by September 2009.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Surveillance
Airport

Flight Domain(s): Terminal

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 117 / 12

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Name: Airport Surveillance Radar : Model 7

Acronym: ASR-7

Description: The Airport Surveillance Radar Model 7 (ASR-7) is a short-range (60 nautical miles (nmi)) analog radar system used to detect and report the presence and location of aircraft in a specific volume of airspace. It is used in conjunction with the Air Traffic Control Beacon Interrogator-Model 4 or Model 5 (ATCBI-4 or ATCBI-5) or Mode Select (Mode S).

All ASR-7 and co-located beacon systems will be replaced by the ASR-11 system by 2011. The ASR-7 will be decommissioned.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance
Airport

Flight Domain(s): Terminal

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 118 / 9

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Name: Airport Surveillance Radar : Model 8

Acronym: ASR-8

Description: The Airport Surveillance Radar Model 8 (ASR-8) is a short-range (60 nautical mile (nmi)), analog radar system used to detect and report the presence and location of aircraft in terminal and en route airspace. The ASR-8 uses a moving target indicator (MTI) processing and output target data in analog form. A few ASR-8 systems are integrated with a collocated digitizing processor to provide a digital output.

The ASR-8 is used in conjunction with the Air Traffic Control Beacon Interrogator Models 5 (ATCBI-5) or Mode Select (Mode S). Only sites with the collocated digitizer provide correlated radar/beacon data in a digital output.

There are thirty-eight operational and two support ASR-8 radar systems in the NAS. These ASR-8 systems have exceeded their planned service life. Efforts are on-going to manage obsolete and aging parts to sustain the ASR-8. A Service Life Extension Program (SLEP) is being considered to sustain service at the ASR-8 facilities.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Surveillance
Airport

Flight Domain(s): Surface, Terminal

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 119 / 13

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Name: Airport Surveillance Radar : Model 9

Acronym: ASR-9

Description: The Airport Surveillance Radar Model 9 (ASR-9) is a short-range (60 nmi) radar system used for terminal area and en route gap filler surveillance. The ASR-9 processes the radio frequency (RF) returns using a moving target detection (MTD) function to extract surveillance target and weather contour data. The MTD offers improved detection over multiple Doppler frequencies over traditional moving target indicator (MTI) processing.

The ASR-9 weather channel is capable of producing two or six level weather contour mapping. This data is provided to Air Traffic Control display systems. A separate Weather System Processor (WSP) is interfaced to the ASR-9 to extract surveillance data. ASR-9 weather channel and WSP data is input to the Integrated Terminal Weather System (ITWS). The ASR weather channel data may be used to supplement Next Generation Weather Radar (NEXRAD) coverage.

The ASR-9 is collocated and interfaces to Mode Select (Mode S) or Air Traffic Control Beacon Interrogator Model 5 (ATCBI-5) systems to produce correlated radar/beacon surveillance data.

There are 125 FAA and 10 Department of Defense systems. Many DOD systems are integrated into the NAS to supplement coverage requirements. The ASR-9 will be upgraded using Service Life Extension Programs (SLEP) to ensure that it continues to meet maintenance and performance requirements. A decision is planned 2007 for a SLEP to address high failure parts, receiver modifications and parts for which there are diminishing source or suppliers.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Airport

Flight Domain(s): Terminal

Update Date: 02-Mar-2010 by Cindy Magee

ID / Revision: 120 / 15

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Name: Airport Weather Information System

Acronym: AWIS

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 962 / 1

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Name: Airport Wireless Communications System

Acronym: AWCS

Description: Enhancement of availability, adaptability, and expediency of airport-aircraft communications is essential for conveying timely, reliable situational awareness updates amongst airport facilities and aircraft. The Airport Wireless Communications System (AWCS) will enable this capability by establishing a wireless communications network infrastructure that will disseminate timely advisories to various aviation stakeholders (e.g., pilots, controllers, dispatchers, airlines, and ramp personnel).

Due to the flexibility in configuring such a wireless network, the AWCS nodes will be placed in close proximity to airport sensors and ground-based operational elements, averting the topological and availability constraints of the Airport Cable Loop System and airport configuration changes. Based upon WiMAX over C-Band technology, AWCS will enable mobile and fixed assets to maintain high-speed communications that mitigate surface and aerodrome traffic risks (e.g., runway incursion, wake turbulence and weather advisories, clearance and dispatch information).

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 08-Mar-2010 by James Grant

ID / Revision: 796 / 11

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Name: Airports Geographic Information System

Acronym: AGIS

Description: tbd

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 912 / 5

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Name: Airports and Navigation Aids Database System

Acronym: AIRNAV

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 963 / 1

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Name: Airports and Navigation Aids Database System 2.0

Acronym: AIRNAV 2.0

Description: TBD

State: Planned

Primary Roadmap: - Not Available -

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|---|---|
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 961 / 2 |

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| | |
|---|---|
| Name: | Airspace Analysis Model |
| Acronym: | AAM |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 964 / 1 |

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| | |
|---|---|
| Name: | Airspace Simulation and Analysis for Terminal Procedures |
| Acronym: | ASAT |
| Description: | The Airspace Simulation and Analysis for Terminal Procedures (ASAT) is the primary simulation facility in use today for the development of standards and criteria, risk analyses, and complex modeling and analysis work by the Flight Standards Service and other FAA agencies.<br><br>For example the Flight Standards Service assesses the impact on safety of proposed changes to the National Airspace System (NAS) utilizing the ASAT computer system.<br><br>Additional information at http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/afs/afs400/afs420/responsibility/functions/ |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |

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|---|---|
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 543 / 2 |

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| | |
|---|---|
| Name: | Airspace and Aeronautical Information Management Laboratory |
| Acronym: | ATA Lab |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 23-Apr-2010 by Steve Amato |
| ID / Revision: | 1001 / 1 |

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|---|---|
| Name: | Airway Facilities Technicians Network Portal |
| Acronym: | AFTechNet |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 992 / 1

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Name: Alaska Flight Service Modernization

Acronym: AFSM

Description: The objective of Alaska Flight Service Modernization (AFSM Seg 1) is to identify and incorporate technologies into a new and affordable flight data interface for flight service users. Potential technology infusions will accommodate hand held devices, data link transmission and display, and wireless broadband communications.

Resultant safety benefits include: Better flight crew Situational Awareness, Reduced potential for operational errors and deviations, and Enhanced airport advisories and Search and Rescue (SAR).

AFSM Segment 1 consists of three separate and overlapping Work Packages (2010 - 2015), which seek to: replace OASIS (Alaska), upgrade AFSM system architecture, and provide a new briefer console workstation (with redundancy).

Service enhancements will focus on: (a) Real time "Weather Delta" updates, (b) Notification of new or amended TFRs or changes in SUA status along route of flight, (c) Digital NOTAM and PIREP updates, (d) Voice to Text PIREP filing, (e) Remote/Wireless Filing, (f) Opening and Closing of VFR/IFR/DVFR Flight Plans, (g) Enhanced Search and Rescue, and (h) Enhanced Airport Advisories.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Communications
Enterprise Services
Safety

Flight Domain(s): Flight Service

Update Date: 02-Apr-2010 by Keith Talbert

ID / Revision: 638 / 13

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Name: Alaska Flight Service Modernization Voice Switch

Acronym: AFSM (Voice)

Description: The AFSM (Voice) system description is TBD.

State: Planned

| | |
|---|---|
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Safety |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 895 / 6 |

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| | |
|---|---|
| Name: | Alaska NAS Interfacility Communications System |
| Acronym: | ANICS |
| Description: | Key Note: The Alaskan NAS Interfacility Communications System (ANICS) program has been renamed to Alaska Satellites Telecommunication Infrastructure (ASTI) during Concept and Requirements Definition (CRD) phase of the Acquisition Management System (AMS). The Investment Analysis Readiness Decision (IARD) was approved on March 19, 2008.<br><br>ANICS provides wide area NAS telecommunication services within the state of Alaska and connectivity to NAS facilities within Alaska from NAS facilities outside of Alaska.<br><br>ANICS service is provided by FAA-owned satellite earth stations and leased transponders on two communications satellites. NAS facilities are connected to ASTI demarcation points through access circuits. These access circuits may be implemented by a copper or fiber optic cable, microwave radio, or leased services. Communications interfaces provide for Voice Grade (VG) services (VG1, VG2, VG3, VG5, VG6, VG7, VG8, VG10) and for digital services for data rates from 300 bps to 1.544 Mbps.<br><br>The ANICS equipment provides remote maintenance monitoring and control. The equipment is controlled and operated from the Network Control Center (NCC) using the Harris Corporation Air Traffic Network Manager (ATNM), centrally located in the Anchorage (KZAN) Air Route Traffic Control Center (ARTCC).<br><br>ANICS Phase 1 (ANICS P1) provides critical communications with 99.99% availability at 52 sites by using two sets of ground segment equipment and two satellite transponders to create two parallel communication paths with switchover capability.<br><br>ANICS Phase 2 (ANICS P2) sites provide essential communications with 99.9% availability at 12 sites by using one set of ground segment equipment and one satellite transponder. Phase 2 ground segment sites are enclosed in radomes that protect the equipment and antenna from the weather. Additional Information: http://download.harris.com/app/public_download.asp?fid=416 |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, Terminal |
| Update Date: | 02-Mar-2010 by Cindy Magee |
| ID / Revision: | 11 / 5 |

Name: Alaska Satellite Telecommunications Infrastructure

Acronym: ASTI

Description: Key Note: The Alaskan National Airspace System (NAS) Interfacility Communications System (ANICS) program and system have been renamed to Alaska Satellites Telecommunication Infrastructure (ASTI) during Concept and Requirements Definition (CRD) phase of the Acquisition Management System (AMS). The Investment Analysis Readiness Decision (IARD) was approved on March 19, 2008.

ASTI is an FAA-owned satellite-based infrastructure that carries reliable voice/data communications in support of air traffic management (ATM) and air traffic control (ATC) between FAA facilities (i.e., Air Route Traffic Control Center (ARTCC), Airport Traffic Control Tower (ATCT), and Automated Flight Service Station (AFSS) facilities). The satellite portion of the wide area communications service is a leased service.

ASTI provides communications connectivity for critical, essential, and routine air traffic control services. Two satellite relay services provide air-to-ground primary and backup alternate communications connectivity diversity.
The network can be expanded as needed to provide service to new NAS facilities.

ASTI Modernization will be focused on making improvements to ASTI Phase 1 and ASTI Phase 2 roll-outs - correcting ASTI operational availability degradation that is caused by equipment obsolescence and weather related damage and deterioration.

On the 2007 Communications Roadmap, the "Tech Refresh" mechanism represents ASTI Modernization.

Additional Information: http://download.harris.com/app/public_download.asp?fid=416

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 02-Mar-2010 by Cindy Magee

ID / Revision: 712 / 5

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Name: Alaskan Weather Cameras

Acronym: Alaska MIH Video Equip - Wx Cam

Description: The Alaska Mike-in-Hand & Video Equipment (Alaska MIH & Video Equip) project extends the Weather Camera program in Alaska. Terrain and rapidly changing weather conditions in Alaska do not always permit effective use of automated weather systems at many locations throughout Alaska. In addition, automated systems do not always provide pilots complete weather information for making effective decisions.

The Alaska Weather Camera program currently consists of approximately 87 weather cameras that help resolve some of the above issues by providing real-time images of certain remote airports and mountain passes to air carriers, dispatchers, commercial and GA pilots and Flight Service Station (FSS) specialists. The FAA intends to fund and field an additional 134 sites through 2013 in Alaska. The Internet-based system enables users to compare real-time weather at remote sites with stored clear-day images that have terrain features annotated.

The ATO Executive Council approval of these cameras applies only to the state of Alaska. Other regions of the U.S. wanting to use this equipment must initiate separate acquisition action in accordance with the Acquisition Management System.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, Terminal

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 720 / 3

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Name: Approach Lighting System : Medium-Intensity Approach Lighting System with Runway Alignment Indicator Lights

Acronym: MALSR

Description: The Medium-Intensity Approach Light System with Runway Alignment Indicator Lights (MALSR) supports Category I instrument approaches. It is a medium intensity light system that identifies the extended runway centerline from threshold to 2,400 feet before the threshold. The MALSR supports Category I instrument approaches and presents to the pilot the illusion of a ball of light traveling from the outer end of the system to a point approximately 1,400 feet from the end of the runway. A row of green lights marks the threshold of the runway.

The Medium-Intensity Approach Light System Sequenced Flashing Lights (MALSF) and Medium-Intensity Approach Light System (MALS) are subsets of MALSR. A MALSR has 45 lights, 5 flashers, and is 2400 ft in length. A MALSF has 45 lights, 3 flashers, and is 1400 ft in length. MALS has 45 lights, no flashers, and is 1400 ft in length.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 89 / 2

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Name: Approach Lighting System : Model I

Acronym: ALS I

Description: The  is a lighting system installed on the approach end of an airport runway and consisting of a series of light bars, strobe lights, or a combination of the two that extends outward from the runway end. ALS (I) support Category I operations on runways at airports that have an instrument approach procedure (IAP) and allows the pilot to visually identify the runway environment and align with the runway once arriving at a prescribed point on an approach.

The runway lighting is controlled by the air traffic control tower.  At uncontrolled airports, Pilot Controlled Lighting may be installed which can be switched on by the pilot via radio. In both cases, the brightness of the lights can be adjusted for day and night operations.

Depth perception is inoperative at the distances usually involved in flying aircraft, and so the position and distance of a runway with respect to an aircraft must be judged by a pilot using only two-dimensional cues such as perspective, as well as angular size and movement within the visual field. Approach lighting systems provide additional cues that bear a known relationship to the runway itself and help pilots to judge distance and alignment for landing.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 882 / 8

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Name: Approach Lighting System : Model II/III

Acronym: ALS (II/III)

Description: The Approach Lighting System Model II and Model III (ALS (II/III)) is a lighting system installed on the approach end of an airport runway and consisting of a series of light bars, strobe lights, or a combination of the two that extends outward from the runway end. ALS (II/III) support Category I operations on runways at airports that have an instrument approach procedure (IAP) and allows the pilot to visually identify the runway environment and align with the runway once arriving at a prescribed point on an approach.

The runway lighting is controlled by the air traffic control tower.  At uncontrolled airports, Pilot Controlled Lighting may be installed which can be switched on by the pilot via radio. In both cases, the brightness of the lights can be adjusted for day and night operations.

Depth perception is inoperative at the distances usually involved in flying aircraft, and so the position and distance of a runway with respect to an aircraft must be judged by a pilot using only two-dimensional cues such as perspective, as well as angular size and movement within the visual field. Approach lighting systems provide additional cues that bear a known relationship to the runway itself and help pilots to judge distance and alignment for landing.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

| | |
|---|---|
| Flight Domain(s): | None |
| Update Date: | 24-Mar-2010 by James Grant |
| ID / Revision: | 883 / 8 |

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| | |
|---|---|
| Name: | Approach Lighting System : Model III |
| Acronym: | tbd |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 913 / 1 |

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| | |
|---|---|
| Name: | Approach Lighting System : Omnidirectional Approach Lighting System |
| Acronym: | ODALS |
| Description: | The Omnidirectional Approach Lighting System (ODALS) is a system of sequenced flashing lights marking the extended runway centerline for 1,500-feet. Indicators placed at the end of the runway mark each edge of the runway. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |

Update Date: 02-Mar-2010 by Cindy Magee

ID / Revision: 90 / 3

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Name: Approach Lighting System : Runway Alignment Indicator Lights

Acronym: RAIL

Description: Runway Alignment Indicator Lights (RAIL) are a series of sequenced flashing lights that are installed only in combination with other lighting systems.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 409 / 2

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Name: Approach Lighting System : Runway Centerline Lighting

Acronym: RWCLL

Description: Runway Centerline Lighting (RWCLL) consists of flush centerline lights spaced at 50-foot intervals beginning 75 feet from the landing threshold and extending to within 75 feet of the opposite end of the runway.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 407 / 2

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Name: Approach Lighting System : Short Approach Lighting System

Acronym: SALS

Description: A Short Approach Lighting System (SALS) is an array of high-intensity lights marking the extended runway centerline for 2,400 to 3,000 feet from the runway threshold. The system presents to the pilot the illusion of a ball of light traveling from the outer end of the system to a point 1,000 feet from the end of the runway. Two additional rows of lights indicate the edges of the runway for the last 1,000 feet with special indicators placed 1,000 feet, 500 feet and at the runway threshold.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 364 / 2

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Name: Approach Lighting System : Short Approach Lighting System with Sequenced Flashing Lights

Acronym: SALSF

Description: Short Approach Lighting System with Sequenced Flashing Lights (SALSF) is an array of high intensity lights marking the extended runway centerline for 1,500 feet. The system presents to the pilot the illusion of a ball of light traveling from the outer end of the system to a point 1,000 feet from the end of the runway. Indicators placed at the end of the runway mark the center and each edge of the runway. An additional indicator marks a point 1,000 feet from the end of the runway.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 365 / 2

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Name: Approach Lighting System : Simplified Short Approach Light System with Runway Alignment Indicator Lights

Acronym: SSALR

Description: The Simplified Short Approach Light System with Runway Alignment Indicator Lights (SSALR) is a SSALS facility with sequence flashers installed from 1,600 to 2,400 feet from the runway threshold. Normal spacing between lights is 200 feet. This system assists pilots in transitioning from precision approach Instrument Flight Rules (IFR) to Visual Flight Rules (VFR) for landing.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 94 / 2

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Name: Approach Lighting System : Simplified Short Approach Lighting System

Acronym: SSALS

Description: The Simplified Short Approach Lighting System (SSALS) is an array of medium-intensity lights marking the extended runway centerline for 1,400 feet. A special indicator marks a point 1,000 feet from the end of the runway. A row of green lights indicates the threshold runway.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 366 / 2

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|---|---|
| Name: | Approach Lighting System : Simplified Short Approach Lighting System with Sequenced Flashing Lights |
| Acronym: | SSALF |
| Description: | The Simplified Short Approach Lighting System with Sequenced Flashing Lights (SSALF) is a system of medium-intensity lights marking the extended runway centerline for 1,400 feet. The system presents to the pilot the illusion of a ball of light traveling from the outer end of the system (1,400 feet) to a point 1,000 feet from the end of the runway. A special indicator marks a point 1,000 feet from the end of the runway. A row of green lights indicates the threshold runway. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 367 / 2 |

| | |
|---|---|
| Name: | Approach Lighting System : Touchdown Zone Lighting |
| Acronym: | TDZL |
| Description: | A Touchdown Zone Lighting (TDZL) consists of two rows of transverse light bars located symmetrically about the runway centerline normally at 100-foot intervals. The basic system extends 3,000 feet along the runway. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 410 / 2 |

| | |
|---|---|
| Name: | Approach Lighting System : with Sequenced Flashers Model 1 |
| Acronym: | ALSF-1 |
| Description: | The Approach Lighting System with Sequenced Flashing Lights Model 1 (ALSF-1) is a system of high-intensity lights marking the extended runway centerline for 2,400 to 3,000 feet from the runway threshold. A row of green indicators mark the runway threshold.<br><br>ALSF-1 are very old systems and, when funded, will be replaced with current technology, Medium Intensity Approach Lighting System; Runway Alignment Indicator Lights (MALSR) or ALSF-2 systems depending on whether the runway will support Cat I instrument approaches (MALSR) or Cat II/III instrument approaches (ALSF-2). |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 02-Mar-2010 by Cindy Magee |
| ID / Revision: | 363 / 3 |

| | |
|---|---|
| Name: | Approach Lighting System : with Sequenced Flashers Model 2 |
| Acronym: | ALSF-2 |
| Description: | Approach Lighting System with Sequenced Flashers, Model 2 (ALSF-2) is a 2400 foot long array of high intensity incandescent lamps and flashers located on the final approach to a runway and are provided to support Category II and III instrument approaches. The ALSF-2 assists pilots to transition from low visibility Instrument Meteorological Conditions (IMC) to visual conditions for landing. A row of green lights marks the runway threshold.<br><br>These ALSF-2 systems represent the current acquisition. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 02-Mar-2010 by Cindy Magee |

ID / Revision: 104 / 3

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Name: Approach Lighting System : with Sequenced Flashers Next Generation

Acronym: ALSF NexTGen

Description: Approach Lighting System with Sequenced Flashers Next Generation (ALSF NexTGen) is a 2400-foot long array of high intensity Light Emitting Diode (LED) lamps and flashers located on the final approach to a runway and are provided to support Category II and III instrument approaches. The ALSF NexTGen systems assists pilots transition from low visibility Instrument Meteorological Conditions (IMC) to visual conditions for landing. A row of green lights marks the runway threshold.

These systems are installed at new locations so they will not replace the existing ALSF-2 Tech Refresh systems.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 580 / 2

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Name: Auto-Pilot

Acronym: Auto-Pilot

Description: An autopilot is a mechanical, electrical, or hydraulic system used to guide a vehicle without assistance from a human being. Most people understand an autopilot to refer specifically to aircraft, but self-steering gear for ships, boats, space craft and missiles are sometimes also called by this term.

Autopilots in modern complex aircraft are three-axis and generally divide a flight into taxi, takeoff, ascent, level, descent, approach and landing phases. Autopilots exist that automate all of these flight phases except the taxiing. An autopilot-controlled landing on a runway and controlling the aircraft on rollout (i.e. keeping it on the centre of the runway) is known as a CAT IIIb landing or Autoland, available on many major airports' runways today, especially at airports subject to adverse weather phenomena such as fog. Landing, rollout and taxi control to the aircraft parking position is known as CAT IIIc. This is not used to date but may be used in the future. An autopilot is often an integral component of a Flight Management System.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

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|---|---|
| Flight Domain(s): | None |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 914 / 4 |

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| | |
|---|---|
| Name: | Automated Text-To-Voice - StarCaster |
| Acronym: | ATTV |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 967 / 1 |

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| | |
|---|---|
| Name: | Automated Frequency Manager |
| Acronym: | AFM |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |

ID / Revision: 968 / 1

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Name: Automated Radar Terminal System : Model IE

Acronym: ARTS-1E

Description: Automated Radar Terminal System - Model IE (ARTS-1E) is a Stand Alone Tower Systems used at towers without automation system available for support. There are approximately 11 systems in three states.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 891 / 6

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Name: Automated Radar Terminal System : Model IIA

Acronym: ARTS IIA

Description: The Automated Radar Terminal System - Model IIA (ARTS IIA) provides radar data processing (RDP) and decision support tools to the controller in the terminal environment. Utilized at small Terminal Radar Approach Controls (TRACONs), ARTS IIA is capable of receiving input from one sensors, can process up to 256 tracks simultaneously and support up to 11 displays. The radar data processing (RDP) software provides automated surveillance tracking and display processing. Included in the ARTS IIA software are the decision support tools, minimum safe altitude warning (MSAW) and conflict alert, (CA).

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 412 / 2

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Name: Automated Radar Terminal System : Model IIE

Acronym: ARTS IIE

Description: The Automated Radar Terminal System - Model IIE (ARTS IIE) provides radar data processing (RDP) and decision support tools to the controller in the terminal environment. Utilized at low to medium-size Terminal Radar Approach Control (TRACONs) facilities the ARTS IIE is capable of receiving input from up to two sensors, can process up to 256 tracks simultaneously, and support up to 22 displays. ARTS provides continuous real-time support to air traffic controllers at terminal sites including surveillance/tracking, controller data entry and display, aircraft separation assistance (safety functions), flight plan processing, data recording, external data publishing, and system monitoring and control functions.

ARTS performs the following functions:
a. Track Processing (TP) - tracks aircraft and provides track and radar data to the LAN
b. Common Processing (CP)- provides flight plan processing, safety functions [Minimum Safe Altitude Warning (MSAW), Conflict Alert (CA), Mode C intruder alert, Converging Runway Display Aid (CRDA), and Controller Automation Spacing Aid (CASA)], ARTCC interface processing, keyboard functional processing, Digital Altimeter Setting Indicator (DASI) interface processing, and ETMS interface processing
c. Display Processing (DP)- provides controller display and keyboard functions and provides the interface to tower displays
d. System Monitoring Console (SMC)- provides system management for CARTS hardware and software
e. ARTS Gateway Processing (AGW)- shares data with external systems
f. ARTS Radar Gateway (RGW)- provides most CARTS functions on an independent LAN for backing up the primary LAN functions
g. Subsystem Interface Subsystem (SSI)- provides the LAN

The TP, CP, and SMC functions can be combined into one processing element or each subsystem can be a separate processing element.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 02-Apr-2010 by Keith Talbert

ID / Revision: 141 / 5

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Name: Automated Radar Terminal System : Model IIIA

Acronym: ARTS IIIA

Description: The Automated Radar Terminal System - Model IIIA (ARTS IIIA) provides radar data processing (RDP) and decision support tools to the controller in the terminal environment. STARS and CARTS IIIE have replaced the ARTS IIIA at all sites except for the Dayton, OH TRACON. That system will remain in use until replaced by STARS. The Dayton, OH TRACON facility upgrade is scheduled to be completed in 2010.

ARTS provides continuous real-time support to air traffic controllers at terminal sites including surveillance/tracking, controller data entry and display, aircraft separation assistance (safety functions), flight plan processing, data recording, external data publishing, and system monitoring and control functions. The system processes and tracks primary and secondary radar (beacon) derived aircraft data and displays it on an air traffic situation display together with broadband video. The processed data is automatically and semi-automatically displayed in the form of symbology and alphanumerics representing aircraft position, identification, Mode C pressure altitude, target velocity and radar beacon code readout. The system permits the operator (air traffic controller) to enter or retrieve data and selectively display, alter or delete data consistent with operational needs. In addition, it provides the capability for intra-facility communication of stored and active air traffic control information as well as data/message interchange with ARTCC computer systems. An on-line capability to generate and control simulated aircraft targets for training purposes is also be available.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 1 / 2

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Name: Automated Radar Terminal System : Model IIIE

Acronym: ARTS IIIE

Description: The Common Automated Radar Terminal System - Model IIIE (CARTS IIIE) consists of the hardware platform and software required providing radar data processing (RDP) and decision support tools to the controller in the terminal environment. The ARTS IIIE is used at consolidated Terminal Radar Approach Control (TRACON) facilities. The Common ARTS program provided an ARTS IIIE capable of receiving input from up to 15 sensors, the ability to process up to 10,000 tracks simultaneously, and support up to 223 displays. CARTS provides continuous real-time support to air traffic controllers at terminal sites including surveillance/tracking, controller data entry and display, aircraft separation assistance (safety functions), flight plan processing, data recording, external data publishing, and system monitoring and control functions.

CARTS performs the following functions:
a. Track Processing (TP) - tracks aircraft and provides track and radar data to the LAN
b. Common Processing (CP)- provides flight plan processing, safety functions [Minimum Safe Altitude Warning (MSAW), Conflict Alert (CA), Mode C intruder alert, Converging Runway Display Aid (CRDA), and Controller Automation Spacing Aid (CASA)], ARTCC interface processing, keyboard functional processing, Digital Altimeter Setting Indicator (DASI) interface processing, and ETMS interface processing
c. Display Processing (DP)- provides controller display and keyboard functions and provides the interface to tower displays
d. System Monitoring Console (SMC)- provides system management for CARTS hardware and software
e. ARTS Gateway Processing (AGW)- shares data with external systems
f. ARTS Radar Gateway (RGW)- provides most CARTS functions on an independent LAN for backing up the primary LAN functions
g. Subsystem Interface Subsystem (SIS)- provides the LAN

The TP, CP, and SMC functions can be combined into one processing element or each subsystem can be a separate processing element.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 10 / 8

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Name: Automated Surface Observing System

Acronym: ASOS

Description: The Automated Surface Observing System P3I will likely improve or enhance the performance of ASOS capabilities via sensor upgrade/replacement to include: an ASOS processor upgrade, an improved dew point sensor, an ice-free wind sensor, an enhanced precipitation identifier, and possibly a 25,000-foot ceilometer. Some of these improvements have already begun. The need for an improved visibility sensor is being examined at certain airports and may be added if warranted.

ASOS has been included in a program called the Aviation Surface Weather Observation Network (ASWON), with several other surface observing systems.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 312 / 8

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Name: Automated Surface Observing System Controller Equipment Information Display System

Acronym: ACE-IDS

Description: The Automated Surface Observing System (ASOS) Controller Equipment (ACE) Information Display System (ACE-IDS) is a hardware upgrade and software replacement to the ACE. The ACE-IDS is an integrated commercial off-the-shelf/non-developmental item (COTS/NDI) system that allows data from multiple internal and external sources to be consolidated on screen in many combinations and formats for easy access within a graphical user interface. Reference data, such as charts, maps, approach plates, procedures, etc., can be integrated with real-time data collected by interfaces to other systems.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Flight Service, Surface, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 280 / 7

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Name: Automated Terminal Information System

Acronym: ATIS

Description: The Automatic Terminal Information Service (ATIS} equipment provides the continuous broadcast of recorded noncontrol information in selected high activity terminal areas. Information includes the time of the latest weather sequence, ceiling, visibility, obstructions to visibility, temperature, dew point (if available), wind direction (magnetic), and velocity, altimeter, other pertinent remarks, instrument approach and runway in use.

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 01-Mar-2010 by James Grant

ID / Revision: 411 / 5

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Name: Automated Weather Observing System

Acronym: AWOS

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|---|---|
| Description: | The Automated Weather Observing System (AWOS) is a suite of sensors, which measure, collect, and disseminate weather data to help meteorologists, pilots, and flight dispatchers prepare and monitor weather forecasts, plan flight routes, and provide necessary information for takeoffs and landings. AWOSs are categorized as either Federal or Non Federal. The sensors measures weather parameters such as wind speed and direction, temperature and dew point, visibility, cloud heights, precipitation and barometric pressure. AWOS underwent a tech refresh to replace essential components of its processor to sustain its capability.<br><br>AWOS provides a report every twenty (20) minutes from its sensor suite and also provides minute-to-minute updates to pilots via very high frequency (VHF) radio. |
| State: | In-Service |
| Primary Roadmap: | Weather |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 28 / 7 |

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| | |
|---|---|
| Name: | Automated Weather Observing System/Automated Surface Observing System Data Acquisition System |
| Acronym: | ADAS |
| Description: | Automated Weather Observing System (AWOS)/Automated Surface Observing System (ASOS) Data Acquisition System (ADAS) collects, analyzes, and redistributes weather information to support the National Airspace System (NAS). The ADAS receives minute-by-minute AWOS (also ASOS, non-Federal AWOS and U.S. Department of Defense (DoD) automated observation system) weather messages. ADAS distributes surface observation weather messages to the Weather and Radar Processing (WARP) system and the Weather Message Switching Center Replacement (WMSCR) system. The ADAS also receives cloud-to-ground lightning strike information from a vendor that maintains a national network of sensors and distributes this information via an ADAS subsystem called ALDARS (Automated Lightning Detection and Reporting System) to the appropriate ASOS/AWOS site. |
| State: | In-Service |
| Primary Roadmap: | Weather |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Surface |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 41 / 4 |

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Name: Automated Weather Sensor System

Acronym: AWSS

Description: AWSS is the latest version of an automated surface observing system to be fielded. It has the same capabilities as ASOS.

3 additional airports (to those below) have AWSS:
Driggs-Reed ID airport
Wautoma WI airport
Haleyville/Posey Field in Alabama

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 587 / 7

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Name: Automatic Dependent Surveillance - Broadcast

Acronym: ADS-B

Description: ADS-B will be implemented by the Surveillance and Broadcast Services (SBS) Program to provide two services: (1) "Critical Services" consisting of ADS-B and ADS-Rebroadcast, and (2) "Essential Services" consisting of Traffic Information Service Broadcast (TIS-B) and Flight Information Service Broadcast (FIS-B). Nine ADS-B enabled applications will be developed and assessed: (1) ATC Surveillance, (2) Enhanced Visual Acquisition, (3) Enhanced Visual Approach, (4) Final Approach and Runway Occupancy Awareness, (5) Airport Surface Situational Awareness, (6) Conflict Detection for flight and Air Traffic Management (ATM) operations, (7) CDTI/MFD Assisted Visual Separation (CAVS), (8) Interval Management (e.g., merging and spacing) and (9) Weather and NAS Status Situational Awareness. SBS will provide data to FAA defined Service Delivery Points (SDP) as the demarcation points between SBS-provided services and ground-based user systems.

Implementation:
The SBS applications span all national airspace domains (Oceanic, En Route, Terminal and Surface) and require tightly coupled coordination with the Terminal and En Route Service Units. Interfaces will be integrated to all major automation platforms that serve the NAS - En Route Automation Modernization (ERAM), HOST Computer System (HCS), Microprocessor En Route Automated Radar Tracking System (MEARTS), Standard Terminal Automation Replacement System (STARS), Common Automated Radar Terminal System (CARTS) and Advanced Technologies and Oceanic Procedures (ATOP).

SBS will be implemented in two segments. The SBS Program will develop connectivity and validate ADS-B suitability for ATC services through integration to the five primary automation platforms and establish an In-Service Decision (ISD) on ADS-B, ADS-R,TIS-B and FIS-B in Segment 1 by 2010. Additional capabilities (e.g., integration with ATOP) will be addressed as system enhancements in Segment 2 by 2013.

The SBS vendor will install and own about 340 SBS ground stations in three regions of the U.S. by 2010 with an option to install over 400 more by 2013. The SBS vendor will provide SBS capability to the FAA under a fee-for-services arrangement.

SBS - Segment 1:
The SBS Program has achieved Segment 1 milestones up to contract award, including the initation of deployment of essential services (TIS-B and FIS-B) NAS-wide, and other ADS-B related programs activities. An ADS-B "Out" Notice of Proposed Rulemaking (NPRM) was also published. Key remaining

Segment 1 implementation milestones are:
1. Complete deployment and certification of equipment to support service delivery in selected locations
2. Certify ADS-B as an approved surveillance source to support existing separation standards on five FAA automation platforms - ERAM, HOST, MEARTS, STARS, and CARTS
3. Publish ADS-B "Out" Final Rule
4. Confirm minimum avionics performance to ensure future utility.
5. Define additional aircraft to aircraft requirements
6. Achieve early benefits in non-radar airspace

ADS-B critical services (ADS-B downlink to ATC for separation) will be implemented at four key sites (service volumes): the Gulf of Mexico; Louisville, KY - Terminal Radar Approach Control (TRACON) and UPS GOC; Philadelphia, PA - TRACON; and Alaska Anchorage Center and Juneau Air Traffic Control Tower.

SBS - Segment 2:
SBS capabilities will be activated in the remaining NAS service volumes with plans to complete NAS-wide deployment of ADS-B by 2013. The ADS-B "Out" Final Rule for broadcast will be published during the end of Segment 1 and beginning of Segment 2, providing an equipment baseline to continue user equipage and application development and deployment.

Milestones beyond 2013 are:
1. Continue aircraft to aircraft application requirements definition and deployment with a goal of achieving avionics equipage of 100% by FY 2020.
2. Complete removal of targeted legacy surveillance systems, per the ADS-B Backup Strategy, between FY 2020

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Airspace and Procedures

Flight Domain(s): En Route, Surface, Terminal

Update Date: 07-Apr-2010 by Cindy Magee

ID / Revision: 745 / 22

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Name: Automatic Direction Finder Receiver

Acronym: ADF Receiver

Description: Automatic Direction Finder (ADF) Receiver - An aircraft navigation system which senses and indicates the direction to a Low/Medium Frequency (L/MF) nondirectional radio beacon (NDB) ground transmitter. Direction to the transmitter location is indicated to the pilot as a magnetic bearing or as a relative bearing to the longitudinal axis of the aircraft.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 184 / 2

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Name: Autothrottle

Acronym: Autothrottle

Description: An autothrottle (automatic throttle) allows a pilot to control the power setting of an aircraft's engines by specifying a desired flight characteristic, rather than manually controlling fuel flow. These systems can conserve fuel and extend engine life by metering the precise amount of fuel required to attain a specific target indicated air speed, or the assigned power for different phases of flight. A/T and AFDS (Auto Flight Director System) work together to fulfill the whole flight plan and greatly reduce pilots' work load.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 915 / 4

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Name: Aviation Safety Information Analysis and Sharing

Acronym: ASIAS

Description: The FAA promotes the open exchange of safety information in order to continuously improve aviation safety. To further this basic objective, the FAA developed the Aviation Safety Information Analysis and Sharing (ASIAS) system. The ASIAS system enables users to perform integrated inquiries across multiple databases, search an extensive warehouse of safety data, and display pertinent elements in an array of useful formats.

A phased approach continues to be followed in the construction of this system. Additional data sources and capabilities will be available as the system evolves in response both to expanded access to shared data and to technological innovation.

Databases include: FAA Accident /Incident Data System (AIDS), Air Registry (AR), Aviation Safety Reporting System (ASRS), Bureau of Transportation Statistics (BTS), Near Midair Collision System (NMACS), National Transportation Safety Board (NTSB) Aviation Accident and Incident Data System (NTSB), NTSB Safety Recommendations to the FAA with FAA Responses, and the World Aircraft Accident Summary (WAAS) - Subset.

Material from the former National Airspace System Data Analysis Center (NASDAC) is included in ASIAS.

Additional information at http://www.asias.faa.gov/

State: Planned

Primary Roadmap: Safety

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

Update Date: 10-Mar-2010 by James Grant

ID / Revision: 50 / 11

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Name: Aviation System Standards Enterprise Database

Acronym: AVN EDS

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 969 / 1

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Name: Avionics Automatic Dependent Surveillance - Broadcast : In

Acronym: tbd

Description: tbd

State: In-Service

Primary Roadmap: - Not Available -

| | |
|---|---|
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 916 / 1 |

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| | |
|---|---|
| Name: | Avionics Automatic Dependent Surveillance - Broadcast : Out |
| Acronym: | tbd |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 917 / 1 |

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| | |
|---|---|
| Name: | Avionics Flight Information Service - Broadcast |
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |

Update Date: 26-Jan-2010 by Steve Amato

ID / Revision: 918 / 1

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Name: Avionics Traffic Information Service - Broadcast

Acronym: tbd

Description: tbd

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 26-Jan-2010 by Steve Amato

ID / Revision: 919 / 1

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Name: Backup Emergency Communications

Acronym: BUEC

Description: The Backup Emergency Communications (BUEC) sustains and replaces the existing analog BUEC systems. BUEC provides backup air-to-ground (A/G) communications services for Remote Communications A/G (RCAG) Very High Frequency (VHF) and Ultra High Frequency (UHF) communications channels (radio equipment) for the Air Route Traffic Control Centers (ARTCCs) facilities and En-Route domains.

The system consists of remotely controlled equipment, and several VHF and UHF transceivers.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 02-Mar-2010 by Cindy Magee

ID / Revision: 188 / 6

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Name: Bandwidth Manager

Acronym: BWM

Description: Bandwidth Manager (BWM) provides capacity for multiple communication services and the ability to multiplex voice and data within the National Airspace System (NAS) telecommunications network. The BWM enhanced the NAS network capabilities by providing bandwidth-on-demand, automatic restoration, switching and intelligent routing of services between FAA owned and/or leased interfacility connectivities.

The FTI Service provides the back-bone trunking and connectivity for the BWM. As part of BWM migration, the FTI services contract will also provide bandwidth management services.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 24-Feb-2010 by Cindy Magee

ID / Revision: 246 / 4

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Name: Building Information Management

Acronym: BIM

Description: TBD

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 15-Apr-2010 by Steve Amato

ID / Revision: 994 / 3

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Name: Central Altitude Reservation Function

Acronym: CARF

Description: The Central Altitude Reservation Function (CARF) supports United States peace and war plan objectives and other special activities. The CARF is responsible for coordinating military and civilian altitude reservations for operations within the National Airspace System (NAS).

CARF personnel must be able to determine when military operations, national security aircraft operations, and other civilian emergency operations require special traffic management coordination. CARF is also the coordination point for all Open Skies Treaty Operations.

URL for CARF: http://www.fly.faa.gov/carf/

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 718 / 6

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Name: Civilian Air Route System

Acronym: CARS

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

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|---|---|
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 970 / 1 |

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| | |
|---|---|
| Name: | Cockpit Display of Traffic Information |
| Acronym: | Aircraft CDTI |
| Description: | The Aircraft Cockpit Display of Traffic Information (Aircraft CDTI) is a generic name for a display that provides the flight crew with surveillance information about other suitably equipped proximate aircraft, including their position. |
| State: | Planned |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | Safety |
| Flight Domain(s): | En Route, Flight Service, Oceanic, Surface, TFM, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 164 / 8 |

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| | |
|---|---|
| Name: | Coded Time Source |
| Acronym: | CTS |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |

ID / Revision: 920 / 5

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Name: Collaborative Air Traffic Management Technologies

Acronym: CATMT

Description: Collaborative Air Traffic Management Technologies (CATMT) is an Air Traffic Management Program with four Work Packages within which enhancements are developed for TFMS to satisfy current and NextGen needs.

CATMT WP1 will include: (a) Re-route Impact Assessment (RRIA) tool, (b) Execution of Flow Strategies (electronic transmission of pre-departure re-routes to ERAM) and (c) ERAM Flight Information Service SWIM client.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 02-Apr-2010 by Keith Talbert

ID / Revision: 536 / 13

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Name: Collaborative Decision Making Network

Acronym: CDM Net

Description: The Collaborative Decision Making (CDM) Network is the hardware and software suite used to display output from CDM tools in the Airline Operations Centers (AOCs). This hardware and software is not owned by the FAA. This mechanism includes the communications whereby airspace users who have signed a Collaborative Decision Making agreement can interact with FAA in ground delay programs (GDP) and so on. This Mechanism was previously named CDM Workstation.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 427 / 2

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Name: Common ARTS MSAW Validation

Acronym: CAMV

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 971 / 1

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Name: Common Arts Software Development LAN

Acronym: CARTS Dev LAN

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 23-Apr-2010 by Steve Amato

ID / Revision: 1003 / 1

| | |
|---|---|
| Name: | Computerized Voice Reservation System |
| Acronym: | CVRS |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 23-Apr-2010 by Steve Amato |
| ID / Revision: | 972 / 2 |

| | |
|---|---|
| Name: | Conference Control System |
| Acronym: | CCS |
| Description: | The Conference Control System (CCS) is a replacement system for the legacy Operational Telephone System (OTS). The CCS is a telecommunications conferencing system that provides voice connectivity, switching, and teleconferencing capabilities for the Traffic Management Specialists and the National Airspace System (NAS) Operations Manager, at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC). CCS enables collaborative communication with the ATCSCC Traffic Management Specialist, Traffic Management Units (TMUs) at Air Route Traffic Control Center (ARTCC), Terminal Radar Approach Control (TRACON) facilities, the Severe Weather Group at ARTCCs, FAA Regional Offices, FAA Headquarters, Airline Operations Centers (AOCs), and the general aviation (GA) community.<br><br>NOTE: If you are interested in the history of OTS, the predecessor, please enter mechanism ID #: 26 as the search term on the mechanism page. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | TFM |
| Update Date: | 25-Feb-2010 by Cindy Magee |

ID / Revision: 480 / 4

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Name: Convair 580 Regional Commuter

Acronym: Convair 580

Description: TBD

State: In-Service

Primary Roadmap: Facilities

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 23-Apr-2010 by Steve Amato

ID / Revision: 999 / 1

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Name: Corridor Integrated Weather System Prototype

Acronym: CIWS Proto

Description: A Corridor Integrated Weather System (CIWS) prototype, referred to as a Demonstration System, underwent 'concept evaluation'. The CIWS collects various data, then processes, generates, displays, and distributes convective (thunderstorm) weather products to traffic managers at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC), numerous Air Route Traffic Control Center (ARTCC) facilities, large Terminal Radar Approach Control (TRACON) facilities, and some large airports. By concentrating its two-hour forecast product over busy National Airspace System (NAS) corridors, CIWS would enable traffic managers to plan for routing/re-routing due to impacts on the airspace from major thunderstorm disruptions. The CIWS receives weather data from multiple sensors (primarily radars) and distributes processed information to NAS traffic managers via situation displays, and later via the System Wide Information Management (SWIM) network. This system will consist of a hardware processor and associated displays to be used at large airports, TRACONs, ARTCCs, and the ATCSCC as well as a web server for Airline Operations Center (AOC) dispatcher access to CIWS products.

The CIWS Demonstration System is providing significant delay reduction during convective weather impacting the Northeast, mid-Atlantic and the Midwest regions. The CIWS provides improved 0-2 hour forecast of convective weather covering a wide-area and at high resolution and includes much improved echo tops information. CIWS also indicates a measure of the accuracy of its recent forecasts.

In June 2008 Lincoln Laboratory will go live with the version of CIWS covering CONUS, this will expand CIWS coverage from its current northeast corridor version.

System Operations (ATO-R) took over CIWS and plans to deploy an operational CIWS in the 2011 timeframe that will operate from the FAA Tech Center and support traffic flow managers on a national scale. Workups for funding this effort are underway to field the "CIWS Baseline" system.

See also: Evans, James E. and Elizabeth R. Ducot (2006), "Corridor Integrated Weather System," Lincoln Laboratory Journal, Vol. 16, No. 1, pp. 59-80. [www.ll.mit.edu/news/journal/pdf/vol16_no1/16_1_4EvansDucot.pdf.]

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 538 / 3

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Name: Daily Flight Log and Dispatch (DFL Dispatch) System

Acronym: DFL/Dispatch

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 973 / 1

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Name: Data Communications

Acronym: DataComm

Description: DataComm Segment 1 will provide initial capabilities in the Terminal and En Route environments and will serve as the initial building block for trajectory based operations.

In the Terminal environment, specifically in the Tower, Segment 1 will implement data communications capabilities that will provide for new methods for delivery of departure clearances, revisions, and taxi instructions. In the En Route environment, Segment 1 will provide the basic capabilities for controllers and flight crews to transfer ATC clearances, requests, instructions, notifications, voice frequency communications transfers, and flight crew reports as a supplement to voice. Subsequently, initial 4-D routes to manage continuous descent approaches will be implemented on a limited basis at certain airports with aircraft meeting capability requirements.

The DataComm Segment 1 application will interface with ERAM Segments 1, 2, and 3 for content generation and utilize the Digital VHF Aeronautical Mobile Communications Infrastructure for delivery to the Aeronautical System (aircraft).

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): Airspace and Procedures
Enterprise Services

Flight Domain(s): En Route, Surface, Terminal

Update Date: 08-Mar-2010 by James Grant

ID / Revision: 714 / 17

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Name: Data Multiplexing Network

Acronym: DMN

Description: The Data Multiplexer Network (DMN) provides efficient transport for low speed data (2.4 kbps - 19.2 kbps). This network consists of DMN multiplexers and multiplexer-modems interconnected by telecommunication services provided by FTI, RCL, LDRCL, and SATCOM. Additionally, clock boxes (clocking and signal splitting) and A/B switches are an integral part of this network.

DMN Model 6250 multiplexers, which are located primarily at ARTCCs, have 48 input ports and 5 composite links. These composite links are implemented by 64 kbps, 128 kbps, or 256 kbps DDC services. These ARTCC to ARTCC connections are used primarily for transporting such critical data as Host to Host Interfacility Data (IDAT), and for providing a diverse path for Radar Data (RDAT). These connections are also used for non-critical traffic such as Remote Maintenance Monitoring System (RMMS) and Computer Based Instruction (CBI).

DMN 3600 multiplexers and multiplexer-modems have 8 input ports and one composite link. The composite link is implemented by a DDS 56 kbps service for the multiplexers and by a VG-8 service for multiplexer-modems.

DMN 3600 multiplexer-modems are used to transport radar data from an ARSR site to two ARTCCs. (The clock box provides the required signal splitting.) At the ARTCCs, this radar data is ported to a DMN 6250 to provide for the full dual-routing and dual-homing of radar data. A/B switches are used to switch to the backup path if the primary path fails. The DMN 3600 multiplexer-modems are also used to transport non-critical data (e.g., Automated Surface Observing System (ASOS) weather data).

DMN 3600 (digital) multiplexers are typically used to provide ARTCC to TRACON and ARTCC to ATCT connections. ARTCC to TRACON connections are used to transport IDAT, Flight Data Input/Output (FDIO), CBI, RMMS, and ASOS data. ARTCC to ATCT connections are used to transport FDIO, CBI, RMMS, and ASOS data.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 24-Feb-2010 by Cindy Magee

ID / Revision: 12 / 4

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Name: Departure Spacing Program

Acronym: DSP

Description: The Departure Spacing Program (DSP), sometimes called the Departure Sequencing Program, is deployed in the Northeastern U.S. Air Traffic Corridor. DSP evaluates aircraft departure flight plans at participating airports, models projected aircraft demand at departure resources such as first and second departure fixes, and provides windows of departure times to controllers. DSP displays current and predicted departure fix demand as well as allows traffic managers to make departure fix flow rate adjustments. The Flow Forecast Display indicates the number of aircraft projected to cross each DSP departure flow fix for the next one-hour period in 15-minute increments. It also provides information on any fix flow rate restrictions in effect.
DSP interfaces with Flight Strip Printer (part of the Display System Replacement (DSR)) in New York ARTCC "Pit" in order to obtain full flight strip information for display in DSP to air traffic controllers. Also, DSP has a KVDT emulation program whereby air traffic controllers in the NY ARTCC Pit can amend flight plans using the Supervisor's KVDT function. KVDT stands for Keyboard Video Display Terminal.
DSP provides information (recommended departure time, etc.) to controllers to allow for sequenced departures from multiple airports in the New York metropolitan area. New York traffic is displayed in the Washington and Boston facilities to better enable coordination with New York air traffic management facilities. The DSP utilizes graphical user interfaces (GUI) and near real-time electronic information exchange to evaluate aircraft flight plans, model projected aircraft demand, and provide departure window times to controllers at participating airports. The result is to eliminate or reduce contention for airspace at terminal-en route terminal boundary and departure fix points. DSP is also a potential source of surface data that may be useful to the Enhanced Traffic Management System (ETMS).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 391 / 6

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Name: Devcondor Database System

Acronym: DEVCONDOR

Description: TBD

State: In-Service

| | |
|---|---|
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 974 / 1 |

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| | |
|---|---|
| Name: | Digital Aeronautical Database System |
| Acronym: | DADS |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 975 / 1 |

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| | |
|---|---|
| Name: | Digital Airport Surveillance Radar |
| Acronym: | DASR |
| Description: | The Digital Airport Surveillance Radar (DASR) provides advanced digital primary radar including weather intensity surveillance with an integrated monopulse Secondary Surveillance Radar (SSR) system for use in the airport terminal area. DASR is a military version of the Airport Surveillance Radar Model 11 (ASR-11). Some DASR systems will provide surveillance data to support FAA Air Traffic Control operations.<br><br>DOD has procured approximately one hundred and five (105) DASR systems. DASR deployments are managed by DOD. Five DOD DASR systems have a duplicate listing on the FAA ASR-11 site list. Deployment for these five DASR systems, including Pensacola- Whiting Field, Willow Grove NAS, Edwards AFB - High Desert, Velvet Peak and Panamint Valley, are tracked by the FAA.<br><br>DASR systems at NAS Oceana, Dobbins AFB and McGuire AFB DASR interface to the NAS. |

A common configuration will be maintained for ASR-11 and selected DASR systems. The ASR-11 Technology Refresh modifications will be implemented in these DASR systems.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 334 / 5

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Name: Digital Altimeter Setting Indicator

Acronym: DASI

Description: The Digital Altimeter Setting Indicator (DASI) is a system that measures station/airport atmospheric pressure and converts the measured pressure value into the actual sea level pressure based on the United States (U.S.) Standard Atmospheric Table. The value then computed is known as the Altimeter Setting Indicator (ASI) value and is presented to the operator, who is air traffic control (ATC), in a digital format, e.g., 29.50 inches of mercury (in Hg). The ASI value is then transmitted by the air traffic controller to an aircraft pilot for use in setting the altimeter in the aircraft. If a perfectly calibrated altimeter is set to the ASI value existing at any given station whose elevation is designated as Hp, the pointer of the altimeter instrument will indicate an altitude of Hp when the instrument is at the altitude of the sensor in the DASI system. (Hp is an elevation in geopotential meters above mean sea level of the altimeter setting indicator pressure sensor.)

JRC Decision scheduled 2009 to SLEP/Replace DASI

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 45 / 7

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Name: Digital Audio Legal Recorder

| | |
|---|---|
| Acronym: | DALR |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 921 / 3 |

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| | |
|---|---|
| Name: | Digital Bright Radar Indicator Tower Equipment |
| Acronym: | DBRITE |
| Description: | The Digital Bright Radar Indicator Tower Equipment (DBRITE) is a tower display system that provides a raster scan presentation of radar/beacon videos and automation system alphanumeric data. The system accepts radar, beacon, external map, analog data, and automation system data. The DBRITE is a certified tower radar display (CTRD). |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Surface |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 2 / 2 |

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| | |
|---|---|
| Name: | Digital Voice Recorder System |
| Acronym: | DVRS/DVR2 |

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|---|---|
| Description: | The Digital Voice Recorder System (DVRS) is a 16-channel multichannel modular digital voice recorder and reproducer system. The digital voice recorder is utilized to record all air-to-ground (A/G) voice communications between air traffic controllers and pilots, and ground-to-ground (G/G) intrafacility and interfacility communications between air traffic controllers.<br><br>The reproducer is designed for playback of call files and reproducing call files that have been recorded on digital audio tape (DAT) onto a standard cassette tape. Call files can be searched for playback using channel, time/date, or a combination of both parameters. The reproducer provides the capability to playback-selected recordings from the digital voice recorder for transcription, evaluation and training purposes.<br><br>The digital voice recorder consists of a digital recorder unit (DRU), control workstation, two speakers, external alarm with optional Navstar Global Positioning System (GPS) antenna receiver, uninterruptible power supply (UPS), and an alternating current (AC) line conditioner (if required).<br><br>Digital Voice Recorder 2 (DVR2) utilizes 24-channel capacity analog to digital interface (ADIF) and audio line interface (ALI) boards in the DRU chassis. This system eliminates one DAT drive, incorporates a mirrored hard drive configuration of dual 8 Gigabyte hard drives, and contains a mirroring device for mirroring control. The DVR2 increases the central processing unit (CPU) memory to 16 Megabyte (MB) and adds new cabling within the chassis for connection of the new channel capacity board and mirroring device with hard drive configuration. The DVR2 includes upgrades to the NICE Systems Inc. software and workstation operating system. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 13 / 4 |

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| | |
|---|---|
| Name: | Dimensions CM |
| Acronym: | PCMS |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 23-Apr-2010 by Steve Amato |
| ID / Revision: | 1005 / 1 |

| | |
|---|---|
| Name: | Direct User Access Terminal Service |
| Acronym: | DUATS |
| Description: | Direct User Access Terminal Service (DUATS) is a vendor-provided service giving pilots convenient access to pre-flight aeronautical and weather information for flight planning purposes. It allows pilots to input instrument flight rules (IFR), International Civil Aviation Organization (ICAO), and visual flight rules (VFR) flight plans into the system. An advanced graphical interface for the DUATS system is downloadable from the vendor website at www.duats.com. The current contract extension can provide DUATS through February 2013. |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Safety |
| Flight Domain(s): | Flight Service |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 5 / 7 |

| | |
|---|---|
| Name: | Direction Finder |
| Acronym: | DF |
| Description: | Direction Finder (DF) is a Very High Frequency/Ultra High Frequency (VHF/UHF) radio receiver equipped with a antenna capable of detecting the direction to an aircraft radiating a Radio Frequency (RF) tone. DFs are used to establish a "direction fix" for pilots requesting orientation assistance. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Flight Service |
| Update Date: | 02-Mar-2010 by Cindy Magee |
| ID / Revision: | 98 / 3 |

| | |
|---|---|
| Name: | Display System Replacement |
| Acronym: | DSR |
| Description: | The Display System Replacement (DSR) provides continuous real-time, automated support to air traffic controllers for the display of surveillance, flight data and other critical control information. This information is processed by the Host and Oceanic Computer System Replacement (HOCSR) and the Enhanced Direct Access Radar Channel (EDARC) subsystems. The DSR provides controller workstations, displays, and input/output devices and a communications infrastructure to connect the DSR with external processing elements of the en route air traffic control (ATC) automation system. |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 4 / 6 |

| | |
|---|---|
| Name: | Display and Coordination System |
| Acronym: | DCS |
| Description: | The Display & Coordination System (DCS) is a system utilized by non-FAA users at airports to display and process data provided by the FAA that includes aircraft position information for incoming aircraft and airport flight status. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 429 / 2 |

Name: Distance Measuring Equipment : High Power

Acronym: HP DME

Description: High Power Distance Measuring Equipment (LP DME) is a UHF (Ultra High Frequency) ground-based navigation aid that responds to aircraft DME avionics interrogations, thereby enabling the avionics to determine the slant range between the aircraft and the ground station. DMEs are typically collocated with a Very High Frequency Omnidirectional Range (VOR) to form a VOR/DME facility for enroute navigation, or with an Instrument Landing System Localizer for precision landing procedures. Slant range data can also be obtained from the DME function of a Tactical Air Navigation (TACAN) system. A navigation facility containing a TACAN and a VOR is termed a VORTAC.

DMEs will be sustained to support en route navigation and precision landings. In the future DME quantities may be expanded to provide a redundant ground-based area navigation (RNAV) capability to supplement GPS procedures.

Separate funding segments and acquisition projects have been established for High power (en route) DMEs, and low power (terminal) DMEs. This mechanism addresses the high power DMEs.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft

Flight Domain(s): En Route, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 197 / 15

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Name: Distance Measuring Equipment : Low Power

Acronym: LP DME

Description: Low Power Distance Measuring Equipment (LP DME) is an Ultra High Frequency (UHF) ground-based radio-navigation aid. Distance Measuring Equipment (DME) ground stations reply to interrogations transmitted by aircraft avionics, and are capable of processing replies from more than 100 aircraft at a time. The DME avionics measure the time between an interrogation and a reply to determine the slant range to the ground station.

Acquisition projects have been established for two generic classes of DME ground stations: high power and low power. High power DMEs (HPDMEs) are rated at 1kw and are located to support enroute navigation. HPDMEs are typically co-located with Very High Frequency (VHF) OmniRange systems, forming what is termed a VOR/DME facility. Low power DMEs (LPDMEs) are rated at 100w and are located to support terminal area navigation such as Instrument Landing Systems (ILS) approaches.

LPDMEs are installed with many ILS facilities. When specified in the ILS approach procedure, DME may be used in lieu of the outer marker, as a back-course final approach fix, or to establish other fixes on the localizer course. LPDMEs are also installed with some localizer-only (LOC) facilities. Additional LPDMEs are being installed to support ILS approaches as recommended by the Commercial Aviation Safety Team (CAST).

State: In-Service

| | |
|---|---|
| Primary Roadmap: | Navigation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 375 / 11 |

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| | |
|---|---|
| Name: | Distance Measuring Equipment Avionics |
| Acronym: | DME Avionics |
| Description: | Distance Measuring Equipment Avionics (DME Avionics) receives, processes, and displays the slant range distance from the aircraft to the DME site. |
| State: | Not Set |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 05-Mar-2010 by Cindy Magee |
| ID / Revision: | 186 / 3 |

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| | |
|---|---|
| Name: | Dynamic Ocean Tracking System Plus |
| Acronym: | DOTS+ |

Description: The Dynamic Ocean Tracking System Plus(DOTS+) automation system is located in each of the three Oceanic Air Route Traffic Control Centers (ARTCCs), (Anchorage, Oakland, and New York) and in the David J. Hurley Air Traffic Control System Command Center (ATCSCC). The DOTS, upgraded and frequently referred to as "DOTS +", permits airlines to save fuel by flying random routes, in contrast to structured routes, and permits the air traffic controller to achieve lateral spacing requirements more efficiently. The DOTS generates flexible oceanic tracks that are optimized for best airspace utilization and best time/fuel efficiency. Flexible tracks are updated twice a day using forecasted winds aloft and separation (vertical and lateral) requirements. The DOTS oceanic traffic display gives a visual presentation of tracks and weather. The DOTS sends traffic advisories and track advisories to users and receives aircraft progress reports from the commercial communications service providers (CCSP). These external data exchanges are achieved through interfaces with the National Airspace Data Interchange Network (NADIN) Packet Switch Network (PSN) for Position Reports, Air Traffic Management (ATM) messages, Pilot Reports (PIREPS), and the Anchorage FDP2000. An interface to the Enhanced Traffic Management System (ETMS) will improve coordination between the oceanic and domestic Traffic Flow Management (TFM) systems/activities. The DOTS Weather Server, installed at the ATCSCC, receives National Weather Service (NWS) wind and temperature data via the Weather and Radar Processor / Weather Information Network Server (WARP/WINS) system. The weather data is then distributed to the ARTCCs via commercially provided Integrated Services Digital Network (ISDN) telephone lines. DOTS Plus supports separation reduction initiatives as stipulated in RNP-10 (Required Navigation Performance) for decreasing lateral separation from 100 nautical miles to 50 nautical miles.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 196 / 6

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Name: Electronic Flight Bag

Acronym: EFB

Description: The Electronic Flight Bag (EFB) is an electronic information management device that helps flight crews perform flight management tasks more easily and efficiently with less paper. It is a general purpose computing platform intended to reduce, or replace, paper-based reference material often found in the Pilot's carry-on Flight Bag, including the Aircraft Operating Manual, Flight Crew Operating Manual, and Navigational Charts (including moving map for air and ground operations). In addition, the EFB can host purpose-built software applications to automate other functions normally conducted by hand, such as performance take-off calculations.

The EFB gets its name from the traditional pilot's Flight Bag, which is typically a heavy (up to 40 lb/18 kg or more) documents bag that pilots carry to the cockpit. EFB replaces those documents with a digital format. EFB weights are typically 1-5 pounds, about the same as a laptop computer, and a fraction of the weight and volume of the paper publications. Benefits of using an EFB include: weight savings by replacing the traditional flight bag, reduced medical claims from handling traditional flight bags, reduced cost, and increased efficiency by reducing or eliminating paper processes. There are also claims of increased safety and reducing pilot workload.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 892 / 5

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Name: Electronic Flight Strip Transfer System

Acronym: EFSTS

Description: The Electronic Flight Strip Transfer System (EFSTS) is a system that transfers flight status (departure, arrival) times from the Airport Traffic Control Tower (ATCT) facility to the Terminal Radar Approach Control (TRACON) facility. The EFSTS in the ATCT accepts flight strip data from the Flight Data Input/Output (FDIO) system and prints the strips with a bar code. When an aircraft departs, for example, the air traffic controller swipes the bar-coded strip through the bar code reader, which time stamps the event, and the EFSTS transfers the event data to the TRACON. Although the EFSTS interfaces with the FDIO system, it is a closed system in the sense that no feedback is provided by the EFSTS through the FDIO to update the Host Computer System (HCS).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 599 / 6

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Name: Electronic PTR Folder

Acronym: EPF

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 23-Apr-2010 by Steve Amato

ID / Revision: 1006 / 1

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Name: Emergency Transceiver Replacement

Acronym: ETR

Description: The Emergency Transceiver (ETR) provides portable dual-band Ultra High Frequency/Very High Frequency (UHF/VHF) air-to-ground (A/G) radios for back-up communications at Airport Traffic Control Tower (ATCT) and Terminal Radar Approach Control (TRACON) facilities. The radios provide at least 30-minutes of operation on their battery pack. In addition, they can operate from a 12-volt direct current (DC) vehicle power source and also from an alternate 120-volt alternating current (AC) source. When connected to an external antenna, they can be used from the controller position in case of catastrophic communications or power failure. They can also be carried out of the facility and operated with their own antennas when fire or some disaster forces building evacuation.

A five-year contract was awarded to Motorola in June 1994 for new Portable Emergency Transceiver Model 2000, (PET-2000) to replace a variety of obsolete, unsupportable radios that did not meet operational or spectral emission requirements. The radios were purchased with a ten-year warranty, training and logistic documentation. A total of 1,309 PET-2000s were delivered to the FAA Logistics Center (FAALC) from where they were shipped to locations throughout the National Airspace System (NAS). In addition to the radios, some of the regions were provided with antennas and limited funding to cover the installation.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 66 / 2

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Name: En Route Automation Modernization

Acronym: ERAM

Description: The En Route Automation Modernization System Release 1 (ERAM R1) replaces aging Air Route Traffic Control Center (ARTCC) automation systems at 20 operational locations, which support air traffic control (ATC) in designated sectors, typically of high altitude traffic. ERAM R1 is the first of several incremental releases planned for ARTCC modernization that will employ a new infrastructure, supporting an evolution through multiple subsequent baselines: ERAM Program Baseline (also including ERAM-R2 and ERAM-R3), Post ERAM R3 Work Package, En Route Automation NextGen Mid-Term Work Package, and En Route Automation NextGen Far-Term Work Package. The ERAM R1 will replicate the functionality of the following systems: (a) Host Computer System (HCS), (b) Enhanced Backup Surveillance (EBUS) which replaced the Direct Access Radar Channel (DARC) backup system, (c) Host Interface Device NAS LAN (HNL), and (d) the En Route Application Infrastructure (EAI), otherwise known as User Request Evaluation Tool (URET). In addition to outright replacement of these four systems, ERAM's tight design coupling with the Display System Replacement (DSR) essentially renders DSR to be henceforth included as part of the ERAM system. Although URET is replaced, the functionality of Conflict Probe is retained in ERAM.

Legacy systems being retained are: En Route Communications System (ECG), and En Route Information Display System (ERIDS). Other than requiring interface modifications, the functions of ECG remain unchanged, while the functions of HADDS are incorporated into ERAM R1. ECG will exchange surveillance (serial) data and flight/flow (serial and parallel) data. However, the goal is to have systems exchange flight/flow data directly using standard formatting and application protocol.

Once ERAM-R1 is installed, an end-to-end national adaptation can be applied to each ARTCC rather than individual facility adaptations being used, as is the case now. By making flight data available for flights within proximity to (but not necessarily within) an ARTCC's airspace, Area of Interest (AOI) processing can increase situational awareness by one ARTCC into another ARTCC's airspace.

ERAM is a dual-redundant (primary and backup) system with identical functionality on both operational "channels". It provides a separate on-site Training system for on the job training of both Air Traffic and Airways Facility personnel. In addition to equipping the 20 ARTCCs in the continental United States, it will provide equipment to the FAA William J. Hughes Technical Center and to the FAA Academy.

ERAM and its associated hardware, software and backups will be the backbone of En Route operations. The enhanced infrastructure is designed to support the evolution to the Next Generation Air Transportation System. The FAA has identified this program as a 'contributor' technology for NextGen. It is expected to increase system capacity in order to meet projected demand. Using ERAM, the number of aircraft that each center can track is expected to rise from 1,100 to 1,900 and the number of radars each center can support will increase from 24 to 64.

ERAM will consolidate the Monitor & Control (M&C) functions of legacy Air Route Traffic Control Center (ARTCC) systems into open system architecture. The ERAM M&C will reduce the size of the area needed for displaying system status of separate systems and provide a common human-computer interface (HCI) functionality among them. It will include power system displays and will support prioritization of operational equipment maintenance and restoration efforts along the lines of the classification categories of critical, essential, and routine systems. It will reduce the number of ARTCC M&Cs located in the ARTCC Monitor and Control Center (AMCC) and will be compatible the infrastructure supporting the Service Operation Center (SOC).

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Airspace and Procedures
Enterprise Services

Flight Domain(s): En Route

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 600 / 12

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Name: En Route Automation NextGen Far-Term WP

Acronym: ER NextGen Far-Term WP

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|---|---|
| Description: | The En Route Automation NextGen Far Term WP will combine capabilities of the En Route Automation NextGen Midterm WP into a common platform, along with the capabilities of Terminal platforms (Standard Terminal Automation Replacement System (STARS) and/or Common Automated Radar Terminal System (CARTS) Model IIIE (CARTS IIIE). Requirements for the Common Automation Platform will be those which are En Route domain-derived. |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Airspace and Procedures<br>Enterprise Services |
| Flight Domain(s): | En Route |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 817 / 6 |

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| | |
|---|---|
| Name: | En Route Automation NextGen Mid-Term WP |
| Acronym: | TBD |
| Description: | TBD |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Airspace and Procedures<br>Enterprise Services |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 957 / 6 |

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| | |
|---|---|
| Name: | En Route Communications Gateway |
| Acronym: | ECG |

Description: The En Route Communications Gateway (ECG) replaces the Peripheral Adapter Module Replacement Item (PAMRI) and provides a modernized local area network (LAN)-based infrastructure capable of accommodating the En Route Automation Modernization (ERAM) program with minimal modifications. The PAMRI functions to be replaced included providing communication interfaces to external systems located in other Air Route Traffic Control Centers (ARTCCs), Terminal Radar Approach Control (TRACON) facilities, Automated Flight Service Stations (AFSSs), David J. Hurley Air Traffic Control System Command Center (ATCSCC), North American Aerospace Defense Command (NORAD), U.S. Law Enforcement, U.S. Customs, Military Base Operations, and international Area Control Centers (ACCs). Other interfaces include the Flight Data Input/Output (FDIO) Central Control Unit, which exchanges FDIO data with FAA and U.S. Department of Defense (DoD) facilities, and the National Airspace Data Interchange Network (NADIN) concentrator, which exchanges data through the NADIN Packet Switched Network (PSN) with the M1FC via the Weather Message Switching Center Replacement (WMSCR). The ECG increases the number of external interfaces to radars from 24 to 36. The ECG provides internal interfaces between the Host Computer System (HCS) and the Direct Access Radar Channel (DARC), or EBUS, and between HCS and traffic flow processors such as the Enhanced Traffic Management System (ETMS) and Departure Spacing Processor (DSP), both of which eventually will transition from ECG to the Host Interface Device/National Airspace System Local Area Network (HID/NAS LAN) system. The ECG Monitor and Control (M&C) subsystem includes a display for monitoring up to two-dozen radars. This display is called the Random Access Plan Position Indicator (RAPPI).

The operational components of ECG consist of: (a) front-end processor (communications and surveillance interfaces), (b) two gateway processors (internal connectivity to HCS and DARC/ Enhanced Backup Surveillance (EBUS)), (c) LANs that communicate between the front-end and gateway processors on the primary and the backup automation systems, and (d) a monitor and control processor. With replacement of DARC by EBUS, the ECG gateway processor is renamed to the Backup Interface Processor (BIP), with the BIP platform housing both the ECG gateway application and the EBUS application.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 157 / 6

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Name: En Route Information Display System

Acronym: ERIDS

Description: As of November 2007 the En Route Information Display System (ERIDS) is operational at all of the Air Route Traffic Control Centers (ARTCCs). A waterfall schedule is shown below.

The ERIDS provide real-time access to air traffic control information not currently available from the Host Computer System (HCS) and makes this auxiliary information readily available to controllers. ERIDS is installed at various positions, including the Traffic Management Units (TMU), Center Weather Service Units (CWSU), and ARTCC Monitor and Control (M&C) Centers. ERIDS is integrated into the display system consoles at each sector, uses the center's airspace configuration for sector assignments, and allows changes in sector assignments. ERIDS displays graphic and text data products, including air traffic control documents, Notices to Airmen (NOTAMS), and general information. The ERIDS exchanges information with other systems (e.g., U.S. NOTAM System, and in other facilities via FTI.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 541 / 6

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Name: Enhanced Back-up Surveillance

Acronym: EBUS

Description: Update: On March 31, 2006 the ARTCC facilities in New York, Miami and Los Angeles achieved full operational status for the EBUS system. This completed the deployment of EBUS to all 20 ARTCCs in the continental United States.

The Enhanced Back-Up Surveillance (EBUS) system replaced the Direct Access Radar Channel (DARC) system in use at the 20 Air Route Traffic Control Centers (ARTCC) in the contiguous United States (CONUS), the FAA William J. Hughes Technical Center (WJHTC), and the FAA Academy. The EBUS design employs the existing FAA-certified software of the Microprocessor En Route Automated Radar Tracking System (MEARTS) application to provide radar data processing (RDP) services for the replacement legacy backup system. MEARTS provides key capabilities not supported by the DARC legacy system it replaces, among which are the safety functions of Conflict Alert (CA), Mode C Intruder (MCI), and Minimum Safe Altitude Warning (MSAW). The EBUS also provides Next Generation Radar (NEXRAD) weather data to R-position users via the Display System Replacement (DSR) Backup Communications Network (BCN). The EBUS makes the R-position functionality on the backup channel more comparable to that of the primary channel.

The EBUS application (MEARTS) and the En Route Communications Gateway (ECG) backup gateway application will coexist together in the ECG backup gateway platform, renamed the Backup Interface Processor (BIP).

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 540 / 2

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Name: Enhanced Flight Vision System

Acronym: EFVS

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|---|---|
| Description: | Enhanced Flight Vision System for flight operationsupport in low visibility conditions. |
| State: | Planned |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 922 / 5 |

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| | |
|---|---|
| Name: | Enhanced Terminal Voice Switch |
| Acronym: | ETVS/IVSR |
| Description: | The Enhanced Terminal Voice Switches/Interim Voice Switch Replacement (ETVS/IVSR) are installed at Airport Traffic Control Tower (ATCT) and Terminal Radar Approach Control (TRACON) facilities and can be configured up to 80 air traffic controller positions. The ETVS is a modular system. The size of the switch is based on the number of controller positions in the facility.<br><br>The ETVS (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Air-to-ground (A/G) radio connectivity between ATCT controllers and pilots is also supported by the ETVS.<br><br>The ETVS (installed in the TRACON) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the ETVS.<br><br>A refined set of ETVS products is being procured through the Interim Voice Switch Replacement (IVSR) contract until 2010. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Surface, Terminal |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 14 / 4 |

| | |
|---|---|
| Name: | Enroute Track Analysis Program |
| Acronym: | ETAP |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 976 / 1 |

| | |
|---|---|
| Name: | Event Manager |
| Acronym: | EM |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 965 / 1 |

| | |
|---|---|
| Name: | F-420 |

Acronym: F- 420

Description: The F-420 is a standalone analog wind sensor used for center field wind information at many airport towers. The F-420 has been around for a long time and is becoming unsupportable.

Although fielded as a backup to ASOS, one of the SAWS (Stand Alone Weather Systems) sensors includes a wind sensor that could replace the functionality of the F-420.

ATO-T Wx to incorporate F-420 into a service-based approach for automated surface observing systems as part of a portfolio management approach.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 697 / 7

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Name: FAA Telecommunications Infrastructure

Acronym: FTI

Description: FTI (FTI-1) is a Leased Telecommunications Services contract that is used to satisfy NAS operational and Mission Support telecommunications requirements. FTI is intended to consolidate FAA's communications networks and leased services. FTI provides the range of services that are equivalent to those provided by Leased Inter-facility Communication System (LINCS), Radio Communications Link (RCL), Agency Data Telecommunications Network 2000 (ADTN 2000), Bandwidth Manager (BWM) network including its FAA IP-Routed Multi-user Network (FIRMNET), and the Data Multiplexer Network (DMN). These networks have been, are in the process of, or eventually will be decommissioned. FTI will not duplicate the X.25 services currently provided by NADIN PSN but will accommodate NADIN PSN users as they develop IP capability and migrate to FTI IP services. This will allow the NADIN PSN to be eventually decommissioned. FTI will not replace NADIN MSN services. NADIN MSN is currently being rehosted and will provide access to its services via both X.25 and IP. FTI will provide the IP access to NADIN MSN.

FTI provides point-to-point and multipoint Voice Grade (VG) analog services, point-to-point digital services, IP network services, and switched circuit services. FTI ALSO provides a range of interface types that includes VG, DDC, DDS, T1, T3, ETHERNET, FDDI, and ISDN. FTI services can be ordered across a range of availability requirements from 0.997 to 0.9999971 and across a range of latency limits from 50 ms to 1000 ms. For Security, FTI provides a range of Security Services that includes Basic security, VPNs, Gateways to non-NAS users, and Dedicated Services for critical NAS operational communications traffic.

For Network Management and Operations (NMO), FTI provides User Interface terminals to Technical Operations Control Centers. NMO terminals provide authorized users in these facilities with access to FTI services real-time status, service alarms and alerts, service performance data, service configuration data and other useful information.

In support of Business Services, FTI provides Integrated Business System terminals. Authorized users will have access through these terminals to the following applications: Cost Estimation, Service Quotation, Service Ordering, and Inventory.

The FAA Telecommunications Satellite (FAATSAT) has been transitioned to the FTI Service Class (SC) 14 for voice air-to-ground (A/G) and SC 41 for surveillance data services.

The Agency Data Telecommunications Network 2000 (ADTN-2000) Contract has also transitioned to the FTI as Mission Support Data Services.

At this point, Harris says it has transitioned more than 90 percent of the FAA's legacy networks to the FTI network. [Flt Tech Online, 12-11-2007.]
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Support Activity for SWIM Application Security:
- Demonstration of Enhanced Data Services (ED-X)for NAS Security Application Protection Services for data information exchanges utilizing SOA security mechanisms.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

Update Date: 10-Mar-2010 by James Grant

ID / Revision: 193 / 9

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Name: FALCON II

Acronym: FALCON II

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 979 / 1

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Name: Facility Power Panel Schedule

Acronym: FPPS

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|---|---|
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 977 / 1 |

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|---|---|
| Name: | Facility Safety Assessment System |
| Acronym: | FSAS |
| Description: | TBD - Existing database for collecting safety data. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 902 / 2 |

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| | |
|---|---|
| Name: | Facility Security Risk Management |
| Acronym: | FSRM |
| Description: | TBD |
| State: | In-Service |

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|---|---|
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 15-Apr-2010 by Steve Amato |
| ID / Revision: | 936 / 3 |

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|---|---|
| Name: | Facility Transmitting Authorization |
| Acronym: | FTA |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 978 / 1 |

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| | |
|---|---|
| Name: | Far Term Information Systems Security Work Package |
| Acronym: | FarTerm ISS |
| Description: | The Far Term Information Systems Security Work Package will enhance the NAS Enterprise Level Information Security capabilities implemented in the Mid Term Information Systems Security Work Package. This will expand the capabilities for:<br>External Boundary Protection, Internal Policy Enforcement, Incident [Prevention] Detection & Response, Identity and Key Management, and Certified Software Management. |
| State: | Planned |
| Primary Roadmap: | Information System Security |

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|---|---|
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 05-Mar-2010 by James Grant |
| ID / Revision: | 955 / 7 |

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| | |
|---|---|
| Name: | Federal NOTAM System |
| Acronym: | FNS |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 923 / 5 |

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| | |
|---|---|
| Name: | Final Monitor Aid |
| Acronym: | FMA |
| Description: | The Final Monitor Aid (FMA) is a high resolution radar display providing controllers an increased ability to control multiple simultaneous approaches to parallel runways under instrument flight rule (IFR) conditions. When feed by high precision secondary surveillance data, such as from the Precision Runway Monitor (PRM), increased definition for maintaining aircraft separation is achieved. The FMA system may also extract radar data from the Common Automated Radar Terminal System (CARTS) or the Standard Terminal Automation Replacement System (STARS) and enhance this data when presented on the FMA displays. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |

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|---|---|
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Terminal |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 48 / 2 |

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| | |
|---|---|
| Name: | Fixed Position Surveillance Model 117 |
| Acronym: | FPS-117 |
| Description: | The Fixed Position Surveillance Model 117 (FPS-117) radar is a joint-use military surveillance system used by the FAA to detect slant range and azimuth of en route aircraft. These radars are located in Alaska (12) and Hawaii (1), and are expected to be sustained until at least 2020.<br><br>Twelve FPS-117 radar and collocated beacon system provide a correlated radar/beacon target output in digital format to the NAS. Another system at Mt Kokee, HI is capable of providing data to the NAS.<br><br>THE FPS-117 systems will be sustained by DOD until a decision is made on a new surveillance system replacement. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | Facilities<br>Surveillance |
| Flight Domain(s): | En Route |
| Update Date: | 29-Jan-2010 by James Grant |
| ID / Revision: | 175 / 7 |

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| | |
|---|---|
| Name: | Fixed Position Surveillance Model 20 Series |
| Acronym: | FPS-20 Series |

Description: The Fixed Position Surveillance Model 20 Series (FPS-20 Series) is a military primary radar of various models (FPS-20A, FPS-64, FPS-66A, FPS-67/A/B, and ARSR-60M) used by the FAA to detect slant range and azimuth of en route aircraft operating between terminals in the continental United States. Each of the different radar models is a similar variation of the original FPS-20 military radar. These performance and maintainability for systems have been sustained through service life extension programs (SLEP).

FPS-20 radars are integrated with digitizer processors and collocated ATCBI-6 and Mode S beacon systems to provide a correlated search/beacon digital output. Twenty-one FPS systems are interfaced to the NAS. An additional DOD system at Tinker AFB may interface to the NAS.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 126 / 6

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Name: Flight Data Input/Output

Acronym: FDIO

Description: The Flight Data Input/Output (FDIO) system is a point-to-point "network", recently upgraded to IP (see FDIO Gateway), that exchanges flight data between the En Route ATC automation systems and remote FDIO systems located at TRACONs, large ATCTs and DoD facilities.

The En Route FDIO system consists of (a) Central Control Units (CCUs) at ARTCCs, which are the gateway to remote facilities, (b) Flight Strip Printers (FSPs) at the ATC display positions at ARTCCs, (c) and Remote FDIO standalone systems consisting of a display, keyboard, and flight strip printer. The remote FDIO systems do not interface with automation systems but are used by Air Traffic Control (ATC) specialists to print flight strips from Host and to send flight data updates back to Host.

The Terminal FDIO system interfaces to (but is not part of) the Electronic Flight Strip Transfer System (EFSTS) located at ATCTs and TRACONs. EFTST provides rapid exchange of aircraft status between ATCTs and their respective TRACONs.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 43 / 6

| | |
|---|---|
| Name: | Flight Data Processing 2000 |
| Acronym: | FDP2000 |
| Description: | The Flight Data Processing 2000 (FDP2000) system replaced the oceanic flight data processing capability provided by Offshore Computer System (OCS) at the Anchorage Air Route Traffic Control Center (ARTCC). FDP2000 provides new hardware and software with added capabilities. The added capabilities include winds aloft modeling for improved aircraft position extrapolation accuracy, and support of Air Traffic Services Inter-facility Data Communications Systems (AIDC) ground-to-ground data link with compatible Flight Information Regions (FIRs). The OCS software was re-hosted from the Hewlett-Packard (HP) 1000 platform to the HP 9000 platform. FDP2000 provides flight data to the Microprocessor-En Route Automated Radar Tracking System (Micro-EARTS) radar data processing system. FDP2000 also integrates the existing Controller Pilot Data Link Communications (CPDLC) functions for data link communications with Future Air Navigation System 1/A (FANS 1/A)-equipped aircraft. |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 330 / 6 |

| | |
|---|---|
| Name: | Flight Information Service - Broadcast |
| Acronym: | FIS-B |
| Description: | The Flight Information Service (FIS-B) will provide the automated means for collecting and distributing weather (Service A messages), flight plan data, Pilot Report messages, and other operational information (Service B messages). The Flight Information System (rehosted) will be uplinked to aircraft as part of ADS-B and provided as a web-enabled means for collecting and distributing the above information to all air traffic facilities. |
| State: | In-Service |
| Primary Roadmap: | Surveillance |
| Secondary Roadmap(s): | Aircraft |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |

ID / Revision: 488 / 8

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Name: Flight Information Service - Data Link

Acronym: FISDL

Description: The Flight Information Service - Data Link (FISDL) provides pilots weather, Notices to Airmen (NOTAMs), airfield information, and other types of aeronautical information through Very High Frequency (VHF) utilizing a commercial communications service provider (CCSP).

The FISDL service is being facilitated through a Government-Industry Project Performance Agreement (G-IPPA) allowing a commercial weather service provider (CWSP) to offer graphical and textual FIS/weather products to the cockpit of properly equipped aircraft. This commercially-operated service is being provided as a near-term capability consistent with the FAA FIS Policy Statement of 1998.

This CWSP service will be phased out when the FAA is able to offer similar FISDL services through FAA operated data link resources (e.g., via the universal access transceiver (UAT) link using the Broadcast Services Ground Station (BSGS) and Traffic Information Service (TIS)-FIS Broadcast Server mechanism).

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 239 / 2

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Name: Flight Inspection Dispatch and Flight Following

Acronym: FIDFF

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 28-Apr-2010 by Steve Amato

ID / Revision: 1004 / 2

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Name: Flight Inspection Report Processing System

Acronym: FIRPS

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 980 / 1

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Name: Flight Management System Offset

Acronym: FMS Off

Description: A Flight Management System (FMS) is a computer system that uses a database to allow routes to be preprogrammed and stored. The system is constantly updated with respect to position accuracy by reference to one or more conventional radio navigation aids (i.e., multi-sensor systems). The system may also use information from an inertial reference unit (IRU) or from a stand-alone inertial navigation system (INS). A sophisticated program and its associated database ensure that the most appropriate navaids are automatically selected during the update cycle. FMSs combine the relative position information from two or more point-referenced navigation aids such as Very High Frequency Omnidirectional Range (VOR) or Distance Measuring Equipment (DME) to determine the absolute position of the aircraft (latitude, longitude). The resulting Area Navigation (RNAV) capability permits operation on any desired course.

As of 2007 FMSs now include Global Positioning System (GPS) receivers and will most certainly be developed with additional enhanced features in the future.

State: In-Service

Primary Roadmap: Air / Ground

Secondary Roadmap(s): Aircraft

Flight Domain(s): En Route, Oceanic, Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 162 / 8

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Name: Flight Operations Management System

Acronym: FOMS

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 981 / 1

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Name: Flight Schedule Monitor

Acronym: FSM

Description: The Flight Schedule Monitor (FSM) is the main tool for the traffic management specialist at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC) to monitor, model, and implement Ground Delay Program (GDP) operations. FAA and airlines use FSM to monitor demand through receipt of FSM demand pictures of airports updated every 5 minutes. FSM constructs "what if" scenarios for best options (i.e., best parameters) prior to making a GDP decision. Modeling may be used by: (1) the ARTCC Traffic Management Coordinator (TMC) to request ATCSCC implementation of a GDP in the event of significant congestion or if a demand/capacity imbalance is projected at an en route fix, route, or sector; (2) the ATCSCC to determine Air Route Traffic Control Center (ARTCC) start/end times, Airport Arrival Rate (AAR), and other parameters for a particular GDP scenario; and (3) the Airlines to see the effects of canceling or delaying a specific flights under a GDP. Flight Schedule Monitor Enhanced (FSM Enhanced) augments the existing FSM system by incorporating distance-based Ground Delay Programs (GDP), multiple-fix GDPs, airport GDPs, and playbook-based GDPs. Playbook refers to the National Playbook, which is a collection of Severe Weather Avoidance Plan (SWAP) routes that are pre-validated and coordinated with impacted ARTCCs. It is designed to mitigate the potential adverse impact to users and the FAA during periods of severe weather or other events that affect the National Airspace System (NAS).

Reports from the FSM modeling tool for each GDP include: (1) Carrier Statistics showing total minutes of delay for each flight, (2) Airborne Holding Flight Lists of arrival slots, (3) FSM Slot list, (4) Surface Delay histograms, (5) Control by Time of Arrival (CTA) Compliance Alarms for violations of arrival compliance, (6) Control by Time of Departure (CTD) Compliance Alarms for violation of Departure compliance, (7) Estimated Time En Route (ETE) on significant differences between actual vs. ETMS estimated times, and (8) Spurious Flight Alarms triggered upon cancellation of false flights in a substitution stream.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): TFM

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 392 / 2

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Name: Flight Service Automation System

Acronym: FSAS

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 982 / 1

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Name: Flight Service Data Processing System

Acronym: FSDPS

Description: The Flight Service Data Processing System (FSDPS) is a component of the Model 1 Full Capacity (M1FC) located at each ARTCC to provide a centralized database and processing capabilities to support the flight services performed by specialists in the associated Automated Flight Service Station (AFSS) facilities. The FSDPS database contains aeronautical information, weather information, and the required flight data to support the various flight service functions (e.g., route-oriented weather briefings and the flight-following function).

On February 1, 2005, the FAA awarded a contract for the services provided by the 58 Automated Flight Service Stations (AFSSs) in the Continental United States, Puerto Rico, and Hawaii to the Lockheed Martin Corporation. Lockheed Martin assumed responsibility for providing AFSS these flight services on October 4, 2005. The program, called Flight Service 21 (FS21), consolidated these flight services to 18 sites and will have replaced OASIS and the M1FC, including FDSPS, by the end of 2007. With continued FAA oversight, Lockheed Martin will maintain deliverance of flight services according to the Agency''s strict safety and service requirements. Additional information can be found at http://www.lmafsshr.com. The FAA continues to provide flight services in Alaska.

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 34 / 2

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Name: Flight Services Resource Management Tool

Acronym: FSRMT

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 23-Apr-2010 by Steve Amato

ID / Revision: 1002 / 1

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| | |
|---|---|
| Name: | Fully Digital Minimum Safe Altitude Warning System |
| Acronym: | FDMSAW |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 983 / 1 |

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| | |
|---|---|
| Name: | GSA 400/466 |
| Acronym: | GSA 400/466 |
| Description: | The GSA Model 400/466 is developed by Litton/Amecon and acquired through a National Program/Contract. This solid-state voice switch supports small to medium terminal facilities with up to 4-air traffic controller positions for air-to-ground (A/G) and ground-to-ground (G/G) voice communications connectivity.<br><br>The GSA 400/466 (installed in the ATCT) provides the air traffic control (ATC) operational ground-ground voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/ Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Ground-air radio connectivity between ATCT controllers and pilots is also supported by the GSA 400/466.<br><br>The GSA 400/466 (installed in the TRACON) provide the ATC operational ground-ground voice communications intraconnectivity between controllers within TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. Ground-air radio connectivity between TRACON controllers and pilots is also supported by the GSA 400/466. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 25-Feb-2010 by Cindy Magee |

ID / Revision: 790 / 4

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Name: Geodetic Computational System

Acronym: COMPSYS

Description: This user-friendly interface is one part of the development designed to support the compilation of aeronautical charts and products. It provides the ability to perform geodetic computations. The COMPSYS interface includes eight geodetic computations.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 959 / 2

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Name: Global Navigation Satellite System

Acronym: GNSS

Description: Global Navigation Satellite System (GNSS) is the standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage. A GNSS allows small electronic receivers to determine their location (longitude, latitude, and altitude) to within a few meters using time signals transmitted along a line-of-sight by radio from satellites. Receivers on the ground with a fixed position can also be used to calculate the precise time as a reference for scientific experiments.

As of 2007, the United States NAVSTAR Global Positioning System (GPS) is the only fully operational GNSS. The Russian Global Orbiting Navigation Satellite System (GLONASS) is a GNSS in the process of being restored to full operation. The European Union's Galileo positioning system is a next generation GNSS in the initial deployment phase, scheduled to be operational in 2012. China has indicated it may expand its regional Beidou navigation system into a global system. India's Indian Regional Navigational Satellite System (IRNSS), a next generation GNSS is in developmental phase and is scheduled to be operational around 2012.

Note the internal FAA linkings are a vestige of the database. GNSS is not an FAA system.

State: Planned

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 719 / 7

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Name: Global Positioning System

Acronym: GPS

Description: The NAVSTAR Global Positioning System (GPS) is a (nominal) 24 satellite constellation orbiting at approximately 12,000 miles above the earth in six equally spaced planes. GPS satellites broadcast a precisely timed L-band signal that is received and processed onboard aircraft, in ground vehicles or hand-held receivers to determine the users three-dimensional position (i.e., latitude, longitude and altitude), velocity (if applicable) and the precise time of day. The GPS was developed, and is maintained & operated by, the U.S Department of Defense. GPS equipped aircraft can navigate on published jetways or utilize Area Navigation (RNAV) to fly a desired route between two locations.

Approval has been granted for properly certified GPS avionics to be used as a primary means of navigation in oceanic airspace and in certain remote areas. In July 2003 the Wide Area Augmentation System (WAAS) was commissioned, thereby ensuring GPS/WAAS enabled primary navigation service throughout the NAS. The WAAS ensures that GPS sourced data meets requirements for accuracy, availability, and integrity.

At the current GPS satellite replenishment rate, all three civil signals (L1-C/A, L2C, and L5) will be available for initial operational capability by 2012, and for full operational capability by approximately 2015. For more information on GPS modernization activities, please visit an FAA GPS Modernization page [http://gps.faa.gov/gpsbasics/indexGPSmodernization.htm] and http://pnt.gov.

As of September 2007 there were 30 operational GPS Satellites (Baseline Constellation: 24). They are divided as follows: 15 Block IIA satellites, 12 Block IIR satellites, and 3 Block IIR-M satellites. The 3 Block IIR-M satellites are transmitting a new second civil signal (L2C). Another Lockheed Martin Block IIR-M awaits launch date. Boeing has 12 GPS IIF satellites in production.

The GPS Wing is also modernizing the 6 remaining Block IIR satellites.

Additional Information on GPS is found at (1) http://www.gps.gov/ and (2) FAA Satellite Navigation Product Team: http://gps.faa.gov/

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 85 / 2

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Name: Global Positioning System Receiver Autonmous Intergrity Monitor

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|---|---|
| Acronym: | GPS RAIM |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 924 / 5 |

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| | |
|---|---|
| Name: | Ground Based Augmentation System |
| Acronym: | LAAS (GBAS) CAT I |
| Description: | Update: Airservices Australia (AsA) has announced that a recent Qantas flight, QF flight 513 from Brisbane, flew into the history books, as the first commercial flight to use satellite data for its approach to Sydney. Chief Executive Officer Greg Russell said; "In late November 2006, flight QF513 landed on Sydney Airport's Runway 16 Left using the satellite landing system installed by Airservices Australia."<br><br>"This historic event was the first time an aircraft with fare paying passengers has landed with the Ground Based Augmentation System (GBAS), referred to as a Local Area Augmentation System (LAAS) in the United States, that could eventually replace Instrument Landing Systems (ILS) around the world. "<br><br>Allowing commercial flights to fly the GBAS CAT I prototype system is a world first. This approval is the result of over 18 months of international industry cooperation involving Airservices, Qantas and Sydney Airport Corporation Ltd, Honeywell and Boeing.<br><br>GBAS provides augmentation of Global Navigation Satellite Systems (GNSS) such as the Navstar Global Positioning System (GPS) and transmits information to aircraft every second providing the accuracy and integrity needed for precision approach and landing. Unlike current ILS, which has to be in-place and working for every runway end, a single GBAS covers all nearby runways.<br><br>The LAAS Category I (LAAS CAT I) is a safety-critical precision navigation and landing system that augments GPS range data to provide aircraft position accuracy necessary for CAT I precision approaches; i.e., 200 foot decision height and one-half mile visibility. LAAS will provide service to suitably equipped users for runways equipped with required peripheral systems; e.g., approach zone Runway Visual Range (RVR) and Approach Lighting System (ALS). The LAAS signal-in-space will provide: (1) local area differential corrections for GPS satellites and Wide Area Augmentation System (WAAS) Geostationary Earth Orbit (GEO) satellites; (2) the associated integrity parameters; and (3) the path points that describe the final approach segment.<br><br>The LAAS CAT I will utilize multiple GPS reference receivers and their associated antennas, all located within the airport boundary, to receive and process the GPS and WAAS GEO range measurements and navigation data. The LAAS information is broadcast to aircraft operating in the local terminal area (nominally 20 nautical miles) via a very high frequency (VHF) data broadcast (VDB) transmission.<br><br>As of April 2006 the FAA, Honeywell and the LIP (LAAS Integrity Panel) are making progress on LAAS integrity issues. By the fall of 2006 the FAA and FedEx aircraft plan to fly tests to validate the technical and operational performance of the LAAS prototype installed in Memphis, Tennessee. Following those tests, the processing architecture will be upgraded and a complete set of prototype software functions to host all International Civil Aviation Organization (ICAO) SARPs (Standards And Recommended Practices) CAT I functions will be integrated at Memphis and also at a second new LAAS facility at the FAA's William J. Hughes Technical Center in Atlantic City, New Jersey. This is scheduled to be accomplished by December 2007.<br><br>Information on the Memphis Plan at http://gps.faa.gov/programs/laas/memphis.htm |

The GBAS program office is executing a plan to approve a LAAS CAT I system at Memphis Tennessee airport in late 2008. The system developed under the AsA-Honeywell contract will be SARPs compliant and will be implemented in Memphis under FAA Non-Fed FAR Part 171.

Additional information in June 2007 Operational Evolution Partnership, Version 1.0 at URL http://www.faa.gov/about/office_org/headquarters_offices/ato/publications/oep/version1/reference/laas/

Note: System name GBAS/GLS (Global Navigation Satellite System Landing System) in CAT I section is used in Navigation Roadmap graphic linked to this Mechanism Data Report.

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 05-Mar-2010 by Cindy Magee

ID / Revision: 86 / 3

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Name: Ground Based Augmentation System Avionics : Cat I Approach Avionics

Acronym: tbd

Description: tbd

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 26-Jan-2010 by Steve Amato

ID / Revision: 925 / 1

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Name: Ground Based Augmentation System Avionics : Cat II/III Approach Avionics

| | |
|---|---|
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 926 / 1 |

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| | |
|---|---|
| Name: | Hazard Tracking System |
| Acronym: | HTS |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Safety |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 08-Mar-2010 by Cindy Magee |
| ID / Revision: | 927 / 3 |

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| | |
|---|---|
| Name: | Head-Up Display |
| Acronym: | HUD |

| | |
|---|---|
| Description: | A head-up display (HUD) is any transparent display that presents data without requiring the user to look away from his or her usual viewpoint. Use of head-up displays allows commercial aircraft substantial flexibility in their operations. Systems have been approved which allow reduced-visibility takeoffs and landings, as well as full Category IIIC landings. The use of a HUD during landings reduces lateral deviation from centerline in all landing conditions although the touchdown point along the centerline is not changed. |
| State: | In-Service |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Oceanic, Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 928 / 5 |

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| | |
|---|---|
| Name: | Host ATM Data Distribution System |
| Acronym: | HADDS |
| Description: | The Host ATM Data Distribution System (HADDS) functioned under the infrastructure of the Host Interface Device/National Airspace System Local Area Network (HID/NAS LAN), which was replaced by the ERAM LAN infrastructure. HADDS exchanges messages between ERAM and the following 6 systems: TFMS, TMA, National Offload Program (NOP), Store and Forward Application (SAFA), U.S. Customs and Border Protection agency of the Department of Homeland Security (DHS) and the North Atlantic Treaty Organization (NATO). Off board processors (TFMS, TMA, NOP, and SAFA) use the HADDS API.<br><br>Data exchanged by ERAM through HADDS includes surveillance and flight data and exchanges messages using a common format called the Common Message Set (CMS). |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 55 / 6 |

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| | |
|---|---|
| Name: | Host Computer System |

Acronym: HCS

Description: The Host Computer System (HCS) receives and processes surveillance reports, and flight plan information. The HCS sends search/beacon target, track and flight data, surveillance and alphanumeric weather information, time data, traffic management advisories and lists to the (Display System Replacement) DSR. The HCS associates surveillance-derived tracking information with flight-planning information. The DSR sends requests for flight data, flight data updates, and track control messages to the HCS. HCS-generated display orders are translated for use within the DSR workstation. While radar data processing is distributed among the terminal and En Route computer resources, the HCS performs virtually all of the flight data processing for its entire geographical area of responsibility. Every tower (ATCT) and terminal radar approach control (TRACON) relies exclusively on its parent HCS for flight data.

The HCS also runs algorithms that perform aircraft to aircraft (conflict alert) and aircraft to terrain (Minimum Safe Altitude Warning) separation assurance. The HCS algorithms provide visual and audible alerting to the controller when conflicts are identified.

The HCS presently supplies real time surveillance, flight data and other information to several decision support tools housed in collocated outboard processors connected via two-way high bandwidth links to the HCS and DSR. These are the (User Request Evaluation Tool, (URET), and the Traffic Management Advisory (TMA. URET performs probing of tentative flight plan changes to determine their viability. TMA provides sequencing and spacing information to align the aircraft in En Route airspace for approach.

State: Decommissioned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 8 / 6

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Name: Host Computer System/Oceanic Computer System Replacement

Acronym: HCS/HOCSR

Description: The Host Computer System and Oceanic Computer System Replacement (HOCSR) program was implemented because of potential year 2000 (Y2K) hardware issues with previous hardware. Accordingly, the HOCSR provided a new hardware platform, new peripherals (printers and Keyboard Video Display Terminals (KVDT), a new Direct Access Storage Device (DASD), and new OS-370 software extensions to control the new hardware using legacy National Airspace System (NAS) software applications. Hardware was replaced in both the En Route and Anchorage Oceanic automation environments. The HOCSR did not modify the legacy software functions of either the HCS system (e.g., flight data processing, radar data processing) or the Ocean Display and Planning System (ODAPS) automation systems (e.g., flight data processing). Likewise, HOCSR did not impact Host Interface Device National Airspace System (NAS) Local Area Network (HID/NAS LAN), User Request Evaluation Tool (URET), Display System Replacement (DSR) or the Peripheral Adapter Module Replacement Item (PAMRI).

Phase 1 and 2 (mainframe and software extension replacements) were completed prior to 2000. Phase 3 (DASD replacement) was completed in 2003. Phase 4 (peripheral replacement) was completed in 2004. Enhancements planned for 2005 and beyond were cancelled as the En Route Automation Modernization (ERAM) program overtook them. Each phase has its own waterfall, and consequently no waterfall can be provided in the location section below.

The Host Computer System (HCS) receives and processes surveillance reports, and flight plan information. The HCS sends search/beacon target, track and flight data, surveillance and alphanumeric weather information, time data, traffic management advisories and lists to the DSR. The HCS associates surveillance-derived tracking information with flight-planning information. The DSR sends requests for flight data, flight data updates, and track control messages to the HCS. HCS-generated display orders are translated for use within the DSR workstation. While radar data processing is distributed between the terminal and En Route computer resources, the HCS performs virtually all of the flight data processing for its entire geographical area of responsibility. Every tower (Airport Traffic Control Tower - ATCT) and Terminal Radar Approach Control (TRACON) facility relies exclusively on its parent HCS for flight data.

The HCS also runs algorithms that perform aircraft to aircraft (conflict alert (CA)) and aircraft to terrain (Minimum Safe Altitude Warning - MSAW) separation assurance. The HCS algorithms provide visual and audible alerting to the controller when conflicts are identified. The HCS receives aeronautical and adapted data from an external system, the NAS Adaptation Services Environment (NASE), via an internal component, the Adaptation Controlled Environment System (ACES), which feeds data to the HCS (data files) offline.

The HCS presently supplies real time surveillance, flight data, and other information to several decision support tools housed in collocated outboard processors connected via two-way high bandwidth links to the HCS and DSR. These are the URET and the Traffic Management Advisor (TMA). URET performs probing of tentative flight plan changes to determine their viability. TMA provides sequencing and spacing information to align the aircraft in En Route airspace for approach.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 398 / 2

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Name: Instrument Approach Procedures Automation

Acronym: IAPA

Description: Instrument Approach Procedures Automation (IAPA) is an automation system used to create new Instrument Flight Procedures (IFPs) and to maintain existing IFPs. IFPs provide pilots with approach paths clear of obstacles such as cell towers, buildings and trees into and out of an airport. Procedures define the operational rules for executing defined maneuvers. Procedure information includes approaches, holding, departures, arrivals, routes and minimum altitudes. Procedures are developed to dictate the execution of certain National Airspace System (NAS) operations under specified conditions or avionics equipage use in the cockpit. Effective procedures management requires periodic procedure reviews due to the impact of obstacles. Short-term notices to pilots called Notices-to-Airmen (NOTAMs) are also developed and issued.

The chosen alternative to address the IAPA requirements was to partner with the Department of Defense (DoD) in the acquisition, implementation and maintenance of a software tool. The Joint Resources Council (JRC) approved the initial investment decision for IAPA on 07 June 2006.

IAPA project (A14.00-00) funding was transferred to IFPA (Instrument Flight Procedures Automation) project (A14.02-01) per the JRC final investment decision on 20 September 2006. This is the new approved baseline.

The new IFPA program encompasses the Aviation Systems Standard (AVN) Procedure Tracking System (APTS); Instrument Flight Procedure (IFP) databases, which include Standard Instrument Approach Procedures (SIAP) and Fixes; Instrument Approach Procedure Automation (IAPA); and the future IFP design tool, Instrument Procedure Development System (IPDS). See IFPA Mechanism 7386.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 142 / 2

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Name: Instrument Flight Procedures Automation

Acronym: IFPA

Description: Instrument Flight Procedures Automation (IFPA) is an automation system used to create new Instrument Flight Procedures (IFPs) and to maintain existing IFPs.

IFPs provide pilots with approach paths clear of obstacles such as cell towers, buildings and trees into and out of an airport. Procedures define the operational rules for executing defined maneuvers. Procedure information includes approaches, holding, departures, arrivals, routes and minimum altitudes. Procedures are developed to dictate the execution of certain National Airspace System (NAS) operations under specified conditions or avionics equipage use in the cockpit. Effective procedures management requires periodic procedure reviews due to the impact of obstacles. Short-term notices to pilots called Notices-to-Airmen (NOTAMs) are also developed and issued.

IFPA is comprised of four key components, each with functional sub-components called modules, some of which are operational already. They are: (1) Instrument Procedures Development System (IPDS) - 1st module slated for Initial Operational Capability (IOC) in FY 2009, (2) IFP - IOC FY 2006; Standard Instrument Approach Procedures (SIAP) module; (3) Aviation System Standards Process Tracking System (APTS) - IOC FY 2007 - NOTAM (Notice to Airmen) Tracking System (NTS) module, Reporting module (4) Airports and Navigation Aids System (AIRNAV) - First module slated for IOC in FY 2009.

There is an presently an agreement in place, eventually to be a Memorandum of Agreement (MOA), for the Department of Defense (DoD) to share the annual cost of maintenance for IFPA beginning in FY 2009.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 665 / 2

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Name: Instrument Landing System : Category I

Acronym: ILS (I)

Description: Category (CAT) I Instrument Landing Systems (ILS) support precision landing operations for visibility conditions equal to or greater than a 200 feet decision height above the runway threshold and a touchdown zone runway visual range of at least 1,800 feet.

All ILS radiate runway approach guidance, i.e., alignment and descent information, to aircraft on final approach to a runway. An ILS consists of a highly directional localizer located at the far end of the runway, a glide slope located near, and offset from, the approach end of the runway. Marker beacons located along the runway's approach course provide visual and aural indications in the cockpit that indicate the aircraft's distance from the runway threshold. Marker beacons can be supplanted or replaced by Distance Measuring Equipment (DME) that is typically co-located with the localizer station. The presence and utilization of a DME to aid in making a precision approach is included in the approach procedure for the runway.

ILS feature integral monitoring of the radiated signals to ensure that the radiated guidance is within specified operating tolerances to ensure the signal-in-space approach guidance is safe. They also possess remote maintenance monitoring (RMM) to support remote access and monitoring of the operating status of each ILS station.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 101 / 7

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Name: Instrument Landing System : Category II/III

Acronym: ILS (II/III)

Description: Category II Instrument Landing Systems (ILS (II)) support precision landing operations for 100 foot decision heights and a touchdown zone runway visual range (RVR) of at least 1200 feet. Category Landing Systems (ILS (III) support precision approaches with decision heights of 50 or less feet and touchdown zone RVR less than 700 feet.

All ILS radiate runway approach guidance, i.e., alignment and descent information, to aircraft on final approach to a runway. Equipment-wise an ILS consists of a highly directional localizer located at the far end of the runway, a glide slope located near, and offset from, the approach end of the runway, and marker beacons located along the approach course that provide visual and aural information on how far the aircraft is from the runway threshold. ILS marker beacons can be supplanted or replaced by Distance Measuring Equipment (DME) that is typically co-located with the localizer station. The presence and utilization of a DME to aid in making a precision approach is included in the approach procedure for the runway.

ILS feature integral monitoring of the radiated signals to ensure that the radiated guidance is within specified operating tolerances to ensure the signal-in-space approach guidance is safe. They also possess remote maintenance monitoring (RMM) to support remote access and monitoring of the operating status of each ILS station.

The Local Area Augmentation System (LAAS) may eventually support CAT II/III service. In the interim precision landing services will continue to be provided using ILS technology, which requires that the older population of the current ILS inventory must be either replaced or upgraded (modernized) via a service life extension program.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 102 / 7

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Name: Instrument Landing System Avionics

Acronym: ILS Avionics

Description: Instrument Landing System (ILS) Avionics are a composite of marker beacon, localizer, and glide slope receivers. Up to three separate marker beacons broadcast tone-modulated 75-MHz signals, which the avionics displays as distance to the runway approach end. The end-of-runway localizer radiates a tone-modulated runway centerline signal on one of 40 ILS channels in the very high frequency (VHF) frequency range of 108.10 to 111.95 MHz. The glide slope radiates a tone-modulated precision descent angle signal on one of 40 channels in the ultrahigh frequency (UHF) frequency range of 329.3 to 335.0 MHz. Localizer and glide slope channels are paired so both are selected at the ILS receiver with a single channel selection.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 253 / 6

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Name: Instrument landing System Avionics : Cat I Approach Avionics

Acronym: tbd

Description: tbd

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 26-Jan-2010 by Steve Amato

ID / Revision: 929 / 1

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Name: Instrument landing System Avionics : Cat II/III Approach Avionics

Acronym: tbd

Description: tbd

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 26-Jan-2010 by Steve Amato

ID / Revision: 930 / 1

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Name: Integrated Communications Switching System : Type I

Acronym: ICSS I

Description: The Integrated Communications Switching System Type I (ICSS I) are installed at Airport Traffic Control Tower (ATCT) facilities, Terminal Radar Approach Control (TRACON) facilities, and Automated Flight Service Station (AFSS) facilities.

The ICSS I (installed in the ATCT) provides the air traffic control (ATC) operational ground-ground voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/ Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Ground-air radio connectivity between ATCT controllers and pilots is also supported by the ICSS I.

The ICSS I (installed in the TRACON) provide the ATC operational ground-ground voice communications intraconnectivity between controllers within TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. Ground-air radio connectivity between TRACON controllers and pilots is also supported by the ICSS I.

The ICSS I installed in the AFSS (Alaska) provides the ATC operational ground-ground voice communications intraconnectivity between specialists within an AFSS (intercom), interconnectivity between specialists in separate AFSSs (interphone), and interconnectivity between FSS specialists and ARTCC controllers/TRACON controllers/ATCT controllers/ATCSCC) specialists. Ground to-air radio connectivity between AFSS specialists and pilots is also supported by the ICSS I. ICSS I located in AFSS outside of Alaska are under the management of the Flight Services 21 contract.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Flight Service, Surface, Terminal

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 16 / 4

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Name: Integrated Communications Switching System : Type II

Acronym: ICSS II

Description: The Integrated Communications Switching Systems Type II (ICSS II) are installed at Airport Traffic Control Towers (ATCT), Automated Flight Service Stations (AFSS), and Terminal Radar Approach Control (TRACON) facilities.

The ICSS II (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Ground-to-air radio connectivity between ATCT controllers and pilots is also supported by the ICSS II.

The ICSS II (installed in the TRACON) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/Air Route Traffic Control Center (ARTCC)) controllers/Flight Service Station (FSS) specialists/ATCSCC specialists. Ground-to-air radio connectivity between TRACON controllers and pilots is also supported by the ICSS II.

The ICSS II operating in the Alaska AFSS is owned and operated by the FAA and will transition to the Interim Voice Switch Replacement. All other ICSS II in AFSS are apart of the Flight Services 21 (FS21) leased services contract.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Flight Service, Surface, Terminal

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 414 / 2

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Name: Integrated Communications Switching System : Type III

Acronym: ICSS III

Description: The Integrated Communications Switching System Type III (ICSS III) is installed at Automated Flight Service Stations (AFSS). The ICSS III (installed in the AFSS) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between specialists within an AFSS (intercom), interconnectivity between specialists in separate AFSSs (interphone), and interconnectivity between Flight Service Station (FSS) specialists and Air Route Traffic Control Center (ARTCC) controllers/Terminal Radar Approach Control (TRACON) controllers/Airport Traffic Control Tower (ATCT) controllers/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Air-to-ground (A/G) radio connectivity between AFSS specialists and pilots is also supported by the ICSS III.

The ICSS III operating in the Alaska AFSS is owned and operated by the FAA and will transition to the Interim Voice Switch Replacement. All other ICSS III in AFSS are apart of the Flight Services 21 (FS21) leased services contract. Additional information can be found at http://www.lmafsshr.com.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Flight Service

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 415 / 4

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Name: Integrated Noise Model

Acronym: tbd

Description: tbd

State: In-Service

Primary Roadmap: - Not Available -

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|---|---|
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 931 / 1 |

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| | |
|---|---|
| Name: | Integrated Safety Modeling Capability |
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 932 / 1 |

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| | |
|---|---|
| Name: | Integrated Safety Models |
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |

Update Date: 26-Jan-2010 by Steve Amato

ID / Revision: 933 / 1

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Name: Integrated Terminal Weather System

Acronym: ITWS

Description: The Integrated Terminal Weather System (ITWS) is a recent technology that helps make air traffic flow more efficient in periods of adverse weather at NAS pacing airports. The ITWS is an air traffic management (ATM) tool that provides terminal air traffic managers and controllers plus airline dispatchers with highly accurate, easily understood and immediately useable graphical weather information and hazard alerts on a single, integrated color display. The ITWS uses highly sophisticated meteorological algorithms to integrate and analyze data from multiple FAA and National Weather Service (NWS) sources, including data from the Terminal Doppler Weather Radar (TDWR), Airport Surveillance Radar Model 9 (ASR-9) weather channel, the Next Generation Weather Radar (NEXRAD) or WSR-88, the Low-Level Windshear Alert System (LLWAS), Automated Weather Observing System (AWOS) Data Acquisition System (ADAS), aircraft observations from Meteorological Data Collection and Reporting System (MDCRS), and NWS gridded model data to display current and near-term forecasts of weather conditions and hazards in the terminal area. The ITWS gets 1-minute ASOS data and ground stroke lightning data from ADAS.

The ITWS provides aviation-oriented weather products via situation displays to air traffic control (ATC) personnel in Airport Traffic Control Tower (ATCT), Terminal Radar Approach Control (TRACON), and some Air Route Traffic Control Center (ARTCC) facilities, as well as in the FAA's Air Traffic Control System Command Center (ATCSCC). These products are immediately usable without further meteorological interpretation. In addition, the ITWS subsumes the functionality of Terminal Weather Information for Pilots (TWIP) [from TDWR] and provides depictions of impacting weather to jetliner flight decks via a communications service provider (ARINC).

Re-baselined on May 3, 2004, the ITWS program office completed the following - through FY 2006, 15 systems had been ordered, delivered, installed, and commissioned. Service was provided at 19 airports of which 14 were Operational Evolution Partnership (OEP) airports and four were support systems. Also, as of FY 2006 the program completed the TCWF (Terminal Convective Wx Forecast) capability and completed installation of an ITWS in the New York City area. The remaining 7 (of 22 re-baselined operational systems) will deploy in FY 07 - FY09 providing coverage for 35 airports, of which 28 are OEP airports.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): En Route, Terminal

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 136 / 4

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Name: Interference Detection, Location, and Mitigation

Acronym: Frequency Interference Support/Resolution

Description: This support activity is charged with detecting, analyzing, and locating radio frequency sources that affect the function and operation of National Airspace System (NAS) subsystems that provide advertised services to users. To be successful, this activity requires a significant set of test equipment that can analyze the radio frequency (RF) spectrum and isolate interfering frequency(ies) and their location. Without this support activity the FAA risks the loss of services that are provided to users through the radio spectrum.

A program called the NAS Interference Detection, Location, and Mitigation (NAS IDLM) is being developed. NAS IDLM is to provide frequency spectrum integrity for interference-free use of communications, navigation, and surveillance (CNS) radio frequencies throughout the NAS.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 296 / 4

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Name: Interim Voice Switch Replacement

Acronym: IVSR

Description: tbd

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 934 / 3

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Name: Juneau Airport Wind System

Acronym: JAWS

Description: The Juneau Airport Wind System (JAWS) provides terrain induced wind and turbulence data for use in determining flight approach and departure routes at the Juneau, Alaska International Airport. JAWS generates and displays wind information to Alaskan Airlines, the Juneau Automated Flight Service Station, and the National Weather Service (NWS) office.

In 2008, following two operational evaluations in 2005 and 2006, the FAA William J. Hughes Technical Center (WJHTC) and the National Center for Atmospheric Research (NCAR) improved and tested the algorithms which now meet the turbulence alerting performance requirement for JAWS. In early 2009, a final investment decision will baseline the JAWS, and the prototype will be hardened and transition to an FAA supportable JAWS, with Operational Readiness Decision planned for September 2011.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 02-Mar-2010 by Cindy Magee

ID / Revision: 346 / 6

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Name: Laser Imaging Detection and Ranging

Acronym: LIDAR

Description: tbd

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 935 / 3

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Name: Lead-In-Light System

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|---|---|
| Acronym: | LDIN |
| Description: | A Lead-in-light System (LDIN) consists of one or more series of flashing lights installed at or near ground level that provides positive visual guidance along an approach path, either curving or straight, where special problems exist with hazardous terrain, obstructions, or noise abatement procedures. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 408 / 2 |

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| | |
|---|---|
| Name: | Leased Inter-facility National Airspace System Communication System |
| Acronym: | LINCS |
| Description: | The Leased Inter-facility National Airspace System Communication System (LINCS) provides wide area connectivity between FAA ATC facilities for ground-to-ground (G/G) and air-to-ground (A/G) critical and essential network services using industry-standard interfaces between any specified end points. LINCS is used to satisfy all FAA operational and some administrative telecommunication requirements.<br><br>LINCS services have now been fully transitioned to FAA Telecommunications Infrastructure (FTI) Contract. |
| State: | Decommissioned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 47 / 2 |

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| | |
|---|---|
| Name: | Local Area Augmentation System (Ground Based Augmentation System) Category II/III |

Acronym: LAAS (GBAS) CAT II/III

Description: The CAT II/III Local Area Augmentation System (LAAS) will provide guidance that meets the accuracy, integrity and availability requirements for CAT II and III precision approaches. The Wide Area Augmentation System (WAAS) and LAAS together will provide a seamless satellite-based navigation capability for all phases of flight.

CAT II/III LAAS is an ongoing R&D effort which, if successful, is envisioned to lead to a follow-on development and procurement program. CAT II/III LAAS installations might ultimately complement or replace the CAT II/III Instrument Landing Systems (ILS) that are currently in the NAS.

LAAS consists of a precisely surveyed ground station with multiple Global Positioning System (GPS) receivers, a very high frequency (VHF) radio data broadcast (VDB), and possibly one or more pseudolites to increase availability. The LAAS ground station will receive, process, and communicate differential correction information, together with an integrity message, to aircraft avionics within a nominal radius of 20 to 30 nautical miles from the airport.

Pseudolites are ground-based transmitters that broadcast GPS-like signals. Although not currently envisioned as part of the LAAS architecture, pseudolites may be required to ensure that LAAS meets CAT II/III requirements. Pseudolites can be used as a data link to transmit differential corrections and integrity status to aircraft avionics and as a supplementary ranging source. When used as ranging sources, pseudolites can improve system accuracy by improving the local constellation geometry and system availability.

The schedule shown below is notional and will need to be finalized once the strategy is determined for achieving GLS (GNSS Landing System) performance (i.e., equivalent to Category II/III Instrument Landing System) with satellite-based navigation.

Note: System name GBAS/GLS (Global Navigation Satellite System Landing System) in CAT II/III section is used in Navigation Roadmap graphic linked to this Mechanism Data Report.

State: Planned

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 165 / 8

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Name: Localizer

Acronym: LOC

Description: The component of an Instrument Landing System (ILS) that provides lateral course guidance to the runway. Localizer (LOC) will provide non-precision approach capability with appropriate lead-in lights.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 349 / 10

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Name: Localizer Type Directional Aid

Acronym: LDA

Description: Localizer-type Directional Aid (LDA) is of comparable use and accuracy to a localizer but is not part of a complete Instrument Landing System (ILS). The LDA course usually provides a more precise approach course than the similar Simplified Directional Facility (SDF) installation, which may have a course width of 6 or 12 degrees.

The LDA is not aligned with the runway. Straight-in minimums may be published where alignment does not exceed 30 degrees between the course and runway. Circling minimums only are published where this alignment exceeds 30 degrees.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 425 / 2

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Name: Low Cost Ground Surveillance

Acronym: LCGS

Description: The Low Cost Surface Surveillance (LCGS) system, managed under the Runway Incursion Reduction Program (RIRP), will evaluate alternatives low cost airport surface surveillance systems for operations at small to medium-sized airports. LCGS is to provide scalable and adaptable coverage of airport areas. Coverage may be extended to include user-specified regions, such as runways, taxiways, and ramp areas, or an entire airport movement area.

Benefits provided by LCGS include detection of aircraft and surface vehicles on the airport area during periods of low visibility due to environmental conditions such as heavy precipitation, snow, fog and icing.

The LCGS program will evaluate candidate technologies at four sites - Reno, NV, Manchester, NH, San Jose, CA and Long Beach, CA. LCGS alternatives will be evaluated against criteria for performance, safety, maintainability and cost effectiveness.

Cost/benefit analysis will be performed to identify airport that will benefit from LCGS service. A site listing will be provided when the cost/benefit analysis is mature.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Safety
Surveillance
Airport

Flight Domain(s): Surface

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 740 / 14

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Name: Low-Density Radio Communications Link

Acronym: LDRCL

Description: The Low-Density Radio Communications Link (LDRCL) is an FAA owned communications system. Like the Radio Communications System (RCL), LDRCL is also a micro-wave system that satisfies short-haul, low-density communication requirements. It provides user access (via tail circuits) to a Radio Communications Link (RCL) site or connectivity between two operational Air Traffic Control (ATC) facilities.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, Terminal

Update Date: 24-Feb-2010 by James Grant

ID / Revision: 46 / 7

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Name: Low-Level Windshear Alert System : Model 2

Acronym: LLWAS-2

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|---|---|
| Description: | The Low-Level Windshear Alert System Model-2 (LLWAS-2) is a system of wind anemometers and a processor that detects and identifies hazardous low-level windshear. LLWAS-2 generates alerts to Tower air traffic controllers of existing wind shear conditions near the runways. The system is designed to warn of windshear hazardous to aircraft on approach to, and departure from airports.<br><br>LLWAS-2 consists of at least six (6) remote wind stations placed strategically around the airport runway thresholds, plus a centerfield station that input wind values to the processor. The LLWAS-2 is being upgraded to the LLWAS-RS (relocation/Sustain with enhanced algorithms and locations to enhance its windshear detection performance.<br><br>At ten airports, the LLWAS-2 were converted to the LLWAS - Network Expansion (LLWAS-NE) in order to assist the co-located TDWR in detecting "dry" microbursts, particularly in the western U.S. and Rockies. |
| State: | In-Service |
| Primary Roadmap: | Weather |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 02-Mar-2010 by Cindy Magee |
| ID / Revision: | 68 / 6 |

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| | |
|---|---|
| Name: | Magnetic Variation System |
| Acronym: | MAGVAR |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 984 / 1 |

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|---|---|
| Name: | Maintenance Data Terminal |

| | |
|---|---|
| Acronym: | MDT |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 985 / 1 |

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| | |
|---|---|
| Name: | Meteorological and Aeronautical Planning System |
| Acronym: | MAPS |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Enterprise Services<br>Safety |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 953 / 5 |

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| | |
|---|---|
| Name: | Micro E-ARTS MSAW Validation |
| Acronym: | MEMV |

| | |
|---|---|
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 986 / 1 |

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|---|---|
| Name: | Microprocessor-En Route Automated Radar Tracking System |
| Acronym: | MEARTS |
| Description: | The Microprocessor-En Route Automated Radar Tracking System (MEARTS) is a radar processing system implemented with commercial off-the-shelf (COTS) equipment, for use in the Anchorage, Alaska Air Route Traffic Control Center (ARTCC) and Center Radar Approach Control (CERAPs) environments. It provides single sensor and a mosaic display of traffic and weather using long- and short-range radars and at Anchorage it processes and displays Automatic Dependent Surveillance-Broadcast (ADS-B) surveillance as well. The MEARTS interfaces with multiple types of displays, including the flat panel Display System Replacement (DSR)(modified). |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Terminal |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 108 / 8 |

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| | |
|---|---|
| Name: | Microwave Landing System |
| Acronym: | MLS |

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|---|---|
| Description: | Microwave Landing System (MLS) provides precision navigation guidance for exact alignment and descent of aircraft on approach to a runway. It provides azimuth, elevation, and distance.2. Both lateral and vertical guidance may be displayed on conventional course deviation indicators or incorporated into multipurpose cockpit displays. Range information can be displayed by conventional Distance Measuring Equipment (DME) indicators and also incorporated into multipurpose displays.3. The MLS supplements the Instrument Landing System (ILS) as the standard landing system in the United States for civil, military, and international civil aviation. At international airports, ILS service is protected to 2010. 4. The system may be divided into five functions: (a) Approach azimuth, (b) Back azimuth, (c) Approach elevation, (d) Range, and (e) Data communications. 5. The standard configuration of MLS ground equipment includes: (a) An azimuth station to perform functions (a) and (e) above. In addition to providing azimuth navigation guidance, the station transmits basic data, which consists of information associated directly with the operation of the landing system, as well as advisory data on the performance of the ground equipment. (b) An elevation station to perform function (c). (c) Distance Measuring Equipment (DME) to perform range guidance, both standard DME (DME/N) and precision DME (DME/P). 6. MLS Expansion Capabilities: The standard configuration can be expanded by adding one or more of the following functions or characteristics. (a) Back azimuth: Provides lateral guidance for missed approach and departure navigation. (b) Auxiliary data transmissions: Provides additional data, including refined airborne positioning, meteorological information, runway status, and other supplementary information. (c) Expanded Service Volume (ESV) proportional guidance to 60 degrees. 7. MLS identification is a four-letter designation starting with the letter M. It is transmitted in International Morse Code at least six times per minute by the approach azimuth (and back azimuth) ground equipment. b. Approach Azimuth Guidance1. The azimuth station transmits MLS angle and data on one of 200 channels within the frequency range of 5031 to 5091 MHz. 2. The equipment is normally located about 1,000 feet beyond the stop end of the runway, but there is considerable flexibility in selecting sites. For example, for heliport operations the azimuth transmitter can be collocated with the elevation transmitter. 3. The azimuth coverage extends: (a) Laterally, at least 40 degrees on either side of the runway centerline in a standard configuration, (b) In elevation, up to an angle of 15 degrees and to at least 20,000 feet, and(c) In range, to at least 20 NM. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 99 / 2 |

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| | |
|---|---|
| Name: | Mid Term Information Systems Security Work Package |
| Acronym: | MidTerm ISS |
| Description: | The Mid Term Information Systems Security Work Package will leverage existing programs to provide NAS Enterprise Level Information Security capabilities . These capabilities include External Boundary Protection, Internal Policy Enforcement, Incident [Prevention] Detection & Response, Identity and Key Management, and Certified Software Management. |
| State: | Planned |
| Primary Roadmap: | Information System Security |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |

Update Date: 05-Mar-2010 by James Grant

ID / Revision: 954 / 9

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Name: Mobile/Transportable Airport Surveillance Radar

Acronym: MASR

Description: The Mobile/Transportable Airport Surveillance Radar (MASR) radar system will provide surveillance service to terminal areas, which includes primary, secondary, and weather surveillance and air traffic surveillance security requirements. This system will provide temporary surveillance service upon loss of terminal radar service or planned maintenance outages

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Surveillance

Flight Domain(s): Terminal

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 903 / 9

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Name: Mode 3/C Transponder

Acronym: Mode 3/AC X'ponder

Description: A Mode 3/AC Transponder (Mode 3/AC XPNDR) is a device that responds to an Air Traffic Control Radar Beacon System (ATCRBS) or Mode Select (Mode S) interrogation by transmitting a 12-bit code that identifies an aircraft. Mode 3 is the military identity mode. Mode A is the civil identity mode. Mode 3 and Mode A are reported in identical formats and are called Mode 3/A. The Mode 3/A code in the field consist of 12-bits divided into four groups (A, B, C, and D) of three bits each. The Mode 3/A identity code consist of only four digits, each digit being the octal representation of one of the four groups in the field and listed in the order A, B, C, and D.

A Mode C transponder is a device that responds to an Air Traffic Control Radar Beacon System (ATCRBS) or a Mode S interrogation by transmitting an altitude gray code from the aircraft blind altitude encoder.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 161 / 7

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Name: Mode Select

Acronym: Mode S

Description: The Mode Select Ground (Mode S Gnd) is a ground-based system capable of selective interrogation of Mode S transponders and general interrogation of Air Traffic Control Radar Beacon System (ATCRBS) transponders within range. The system also receives, processes, and forwards the transponder replies to appropriate air traffic control (ATC) automation systems. Data formats for both interrogation and reply include data exchange capability.

The Mode S system provides a limited implementation of Traffic Information Service (TIS) that makes local traffic data available to the flight deck via the Mode S data link. TIS, a Mode S data link service, provides automatic traffic advisories to properly equipped aircraft. Pilots are able to request and receive a display of nearby traffic. The relative range, bearing, and altitude (if known) and a "proximate" or "threat" classification of nearby aircraft will be displayed in the cockpit.

The total Mode S procurement included 148 systems. One Hundred thirty-nine (139) Mode S systems are operational. One hundred sixteen are installed at short range radar (terminal) facilities and twenty three at installed at long range radar (LRR) facilities. Near term plans are to commission two systems at Chicago O'Hare (ORD). Remaining systems, which are displaced by the ASR-11 deployment, will be stored at the FAA Logistics Center.

Ninety-six (96) operational sites provide Traffic Information Service (TIS) service. Mode S systems will continue providing TIS-B services until TIS-B service is provided by the Surveillance and Broadcast Services (SBS) system.

The Mode S systems will be sustained through Service Life Extension Programs (SLEP) and Operations & Maintenance (O&M) funding until a decision is made on sustaining or replacing the Mode S Systems. A Mode S SLEP Phase 2 is being evaluated. This SLEP is discussed in MID 7610. A decision for limited en route and terminal replacement of legacy beacons (Mode S), and removal of remaining systems (Mode S) in planned for 2014.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 123 / 11

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Name: Mode Select Transponder

Acronym: Mode S X'ponder

| | |
|---|---|
| Description: | The Mode Select Transponder (Mode S Transponder) is an avionics system that responds to 1030 MHz interrogations from ground-based sensors or Traffic Alert and Collision Avoidance System (TCAS) airborne avionics with 1090 MHz replies containing aircraft identification, altitude, and other selected data. Mode S transponders offer improvements over conventional Air Traffic Control Radar Beacon System (ATCRBS) transponders in that they provide over 16 million unique beacon codes, can be selectively interrogated to prevent overlapping or garbling of replies from proximate aircraft, and can provide a high-capacity air-ground data link. In addition to responding to "all call" or "roll call" interrogations from ground-based sensors or TCAS avionics, the Mode S transponders are required to transmit or squitter their 24-bit unique identity and altitude once per second. These squitters are "voluntary" or automatic and not in response to any interrogation. The squitters allow TCAS avionics in proximate aircraft or other systems to acquire Mode S equipped aircraft by only listening on 1090 MHz. |
| State: | In-Service |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Oceanic, Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 77 / 7 |

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| | |
|---|---|
| Name: | Model One Full Capacity |
| Acronym: | M1FC |
| Description: | Model One Full Capacity (M1FC) Description: The Model One Full Capacity (M1FC) system, located at Automated Flight Service Stations (AFSS) in CONUS and Alaska, interfaces with a Flight Service Data Processing System (FSDPS) at an FAA Air Route Traffic Control Center (ARTCC). The M1FC is an information processing system used by Flight Service Specialists to collect and distribute Notices to Airmen (NOTAMS), weather information, and flight plan related data to General Aviation (GA) pilots. In addition, the system supports the timely initiation of search and rescue (SAR) processing and the capability to reconstruct system events based on time, terminal, or aircraft information. |
| State: | Decommissioned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Flight Service |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 481 / 2 |

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| | |
|---|---|
| Name: | Moving Map Display |
| Acronym: | Moving Map Display |
| Description: | A Moving Map Display is a display in which a symbol, representing the aircraft, remains stationary while the map or chart image moves beneath the symbol so that the display simulates the horizontal movement of the aircraft in which it is installed. In some cases, the map or chart remains stationary while the symbol moves across the screen. |
| State: | In-Service |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Oceanic, Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 937 / 5 |

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| | |
|---|---|
| Name: | Multi-Channel Recording System |
| Acronym: | MCR |
| Description: | The Multi-Channel Recording System (MCRS) records all audio information either transmitted or received by selected Airway Facilities (AF) and Air Traffic Control (ATC) positions.<br><br>The MCRS consists of four Magnasync TR-1710 10-channel recorders; one Magnasync TR-1720 20-channel recorder; thirteen Dictaphone Model-5000 recorders (ten 10-channel & 3 20-channel); four high capacity voice recorders (three 60-channel & one 10-channel); and three other solid-state recorders (two 60-channel and one 20-channel). |
| State: | Decommissioned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 18 / 2 |

| | |
|---|---|
| Name: | Multi-Mode Digital Radios |
| Acronym: | MDR |
| Description: | Multi-Mode Digital Radios (MDRs) are ground-based very high frequency (VHF) air traffic-control (ATC) radios that can operate in several configurations: (1) analog voice with 25 kHz channel spacing; (2) analog voice with 8.33 kHz channel spacing; and (3) VHF Data Link (VDL) Mode 3 which consists of two-way digital voice and data communication.<br><br>4,200 radios are acquired for productions and 1,200 for spares and replacement (Ref: FY 2010 OST Budget Submission). |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Surface, TFM, Terminal |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 335 / 4 |

| | |
|---|---|
| Name: | Multifunction Display System Avionics |
| Acronym: | MFDS Avionics |
| Description: | A Multifunction Display System Avionics (MFDS Avionics) displays, by means of a cathode ray tube (CRT) or flat panel, graphical and textual information, selectable by type. A MFDS is capable of displaying 2-dimensional and 3-dinensional ground maps, navigation data, and flight parameters. If an air-to-ground data link is present, the MFDS can also display weather and traffic information. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 152 / 2 |

Name: NAS Adaptation Services Environment

Acronym: NASE

Description: The National Airspace System (NAS) Adaptation Services Environment (NASE) is a system developed to meet some of the goals of the Adaptation Improvement Program (AIP). The AIP strives to modernize the way the FAA collects, stores, standardizes, distributes, and manages aeronautical and adaptation data. At this time, the primary focus is on the NASE.

The NASE is a highly specialized electronic distribution application that is oriented toward the needs of adaptation specialists. It distributes information products that are produced by other FAA systems and data providers. The success of NASE depends upon the availability of high quality and timely aeronautical and adaptation information.

The Host Computer System (HCS) receives aeronautical and adapted data from the NASE, via an internal component, the Adaptation Controlled Environment System (ACES), which feeds data to the HCS (data files) offline.

NASE uses a data repository containing aeronautical data provided by multiple FAA data providers, NAS as-adapted data, and a toolset for creating and securely delivering data extracts tailored to the needs of FAA personnel who maintain a particular NAS automation system. All data is configuration-managed.

NASE is web-accessible and provides secure electronic data delivery over the FAA Intranet. The system has been security certified and accredited, and it enables widespread dissemination and accumulation of sensitive data while being resistant to cyber-attacks and data corruption.
The goals of NASE are to: (1) Improve NASE services for existing customers, (2) Provide NASE services to additional NAS programs, (3) Promote and distribute aeronautical data based upon FAA's Aeronautical Data Standards, and (4) Distribute aeronautical data based upon desired interchange models.

NASE services include: (A) Secure Data Repository Services, (B) Customized Data Extraction and Transformation Services, (C) Data Distribution Services, (D) Transaction Logging Services, (E) Automated Data Notification Services, (F) Collaboration Services, (G) Platform Services, and (H) Training Services.

The FAA's Software Engineering Resource Center (SERC) currently manages the day-to-day operations of NASE.

Additional Information: http://www.faa.gov/about/office_org/headquarters_offices/aio/business_value/serc/

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 702 / 6

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Name: NAS Safety Management Service

Acronym: tbd

Description: tbd

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 26-Jan-2010 by Steve Amato

ID / Revision: 938 / 1

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Name: NAS Voice System

Acronym: NVS

Description: The National Airspace System (NAS) Voice Switch (NVS) program will replace legacy voice switches in the Transit (EnRoute) and Arrival/Departure (Terminal) domains. NVS will incorporate a networking capability to enable the voice switch to connect to extended resources for air-to-ground (A/G) communications.

The new modern digital voice switches consisting of digital interfaces will be the common platform and baseline voice switch for all NAS domains with modularity and scalability to meet communications connectivity requirements. Additionally, this switch will be expandable to accommodate growth capacity requirements and able to support NAS Modernization needs as described in various Operational Improvements (OIs).

Operationally, the NVS supports (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within ATC facilities (i.e., Air Route Traffic Control Centers (ARTCCs), Terminal Radar Approach Controls (TRACONS), Air Traffic Control Towers (ATCTs), and new multi-purpose NextGen facilities) for "intercom" communications. The NVS also enables operational communications and interconnectivity between air traffic controllers in separate ATC facilities including interconnectivity to Flight Service Station (FSS) specialists and the David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Air-to-ground (A/G) radio connectivity between controllers and pilots is also supported by the NVS systems.

Additional information in June 2007 Operational Evolution Partnership, Version 1.0 at URL http://www.faa.gov/about/office_org/headquarters_offices/ato/publications/oep/version1/reference/nvs/

State: Planned

Primary Roadmap: Communications

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, Flight Service, Surface, Terminal

Update Date: 08-Mar-2010 by James Grant

ID / Revision: 534 / 11

| | |
|---|---|
| Name: | NAS-Level Integrated Risk Picture |
| Acronym: | NAS-Level IRP |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | Safety |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 08-Mar-2010 by Cindy Magee |
| ID / Revision: | 939 / 3 |

| | |
|---|---|
| Name: | NWS Workstation |
| Acronym: | NWS Workstation |
| Description: | The National Weather Service Workstation (NWS Workstation) enables a meteorologist to create and disseminate aviation-related weather products (e.g., SIGnificant METeorological Information (SIGMETS), Terminal Aerodrome Forecasts (TAF), etc.) to the FAA and nearby National Weather Service (NWS) Weather Forecast Offices. The NWS uses various methods to disseminate these products (e.g., Commercial Communications Service Provider (CCSP), the Internet, NWS-to-FAA telecommunications gateways, etc) to the FAA. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 473 / 2 |

| | |
|---|---|
| Name: | National Aeronautical Charting Group System |
| Acronym: | NACGS |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 940 / 1 |

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| | |
|---|---|
| Name: | National Airspace Data Interchange Network : Message-Switched Network |
| Acronym: | NADIN MSN |
| Description: | The National Airspace Data Interchange Network Message-Switched Network (NADIN MSN) is the portion of the global Aeronautical Fixed Telecommunication Network (AFTN) within the USA domain. As such, it is connected to other countries' AFTN switches and to service providers' message switches (e.g., ARINC, SITA). AFTN enables the exchanges of vital information for aircraft operations such as distress messages, urgency messages, flight safety messages, meteorological messages, flight regularity messages and aeronautical administrative messages.<br><br>NADIN MSN (sometimes called NADIN 1A) is a store-and-forward telecommunication network. It provides its users the ability to exchange Service A (weather messages) and Service B (e.g., Flight Plans, NOTAMS) messages. It stores all Service B messages as required by ICAO. It forwards Service A messages to WMSCR. An example of a typical communication involving NADIN MSN is the transmission of Flight Plans from a NAS system like OASIS, or a domestic non-NAS system like Airline or BaseOps terminals, to a Host Computer.<br><br>There are two NADIN MSN switches, located at ATL and SLC NNCCs. These switches are interconnected by NADIN PSN. Users that are equipped with X.25 capability can access NADIN MSN through NADIN PSN. Users that are not X.25 capable and rely on legacy protocols need to access NADIN MSN through NADIN MSN concentrators, located at ARTCCs.<br><br>NADIN MSN Rehost (NMR) has recently been implemented. NMR allows users to access the MSN with the X.25 or IP protocols. Currently NADIN MSN and the NMR are functioning in parallel as users are being cut over to the NMR. NADIN MSN Concentrators were not involved in the NMR process. They will be decommissioned when their users migrate to IP services. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | Enterprise Services |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |

Update Date: 12-Mar-2010 by James Grant

ID / Revision: 42 / 10

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Name: National Airspace Data Interchange Network : Message-Switched Network Rehost

Acronym: NMR

Description: NMR provides the rehosting of NADIN MSN and adds an IP in addition to an X.25 interface. (NADIN MSN only has an X.25 interface.) NMR allows decommissioning of the NADIN MSN Concentrators at ARTCCs, CERAPs, NNCC, and WJHTC.

IP is provided by the Combined Services Access Point (CSAP), a suite of routers and a KVM switch (Keyboard, Video, Mouse) for packet sniffing over the Web. CSAP provides a common, fault-tolerant interface between FTI and NAS subsystems such as ECG, ADAS, WMSCR, RMMS/RMLS, CCSPs (Arinc and Seta) and AFTN.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 29-Mar-2010 by Steve Amato

ID / Revision: 811 / 3

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Name: National Airspace Data Interchange Network : Packet-Switched Network

Acronym: NADIN PSN

Description: The National Airspace Data Interchange Network Packet-Switched Network (NADIN PSN) (sometimes called NADIN II) is an X.25 packet-switched network that augments and functions in parallel with the NADIN Message-Switched Network (NADIN MSN). Collectively, both networks are known as NADIN. The NADIN PSN is a data communications network composed of packet-switching nodes connected by high-speed digital backbone trunks and controlled by the National Network Control Center (NNCC).

The NADIN PSN is tentatively planned for decommissioning in the 2011 time-frame. The FTI Program Office is working with the NADIN PSN user community to facilitate the migration of end user systems from NADIN PSN X.25 services to FTI IP services.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 24-Feb-2010 by Cindy Magee

ID / Revision: 19 / 4

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Name: National Airspace Incident Monitoring System

Acronym: NAIMS

Description: The National Airspace Incident Monitoring System (NAIMS) is a group of FAA dabases of all reported instances of operational errors made by flight crews or air traffic controllers, with such reports being compulsory for FAA personnel witnessing such errors.

The WJHTC assembles all reports from NAIMS and the Aviation Safety Reporting System (ASRS), which is a non-compulsory database maintained by NASA, for data sample periods for use in safety assessment reports.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 898 / 2

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Name: National Airspace Performance Reporting System

Acronym: NAPRS

Description: The National Airspace Performance Reporting System (NAPRS) collects reported interruptions in NAS services through interruption of systems, subsystems, and equipment or through interruption of facilities operation.

Interruption reporting specifies equipment, date/time of interruption, cause, class of service (FDAT/IDAT, NAMS, CFAD, ECOM, etc.), etc.

See Order JO 6040.15E.

State: In-Service

| | |
|---|---|
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, TFM, Terminal |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 900 / 2 |

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| | |
|---|---|
| Name: | National Airspace System Resources |
| Acronym: | NASR |
| Description: | The National Airspace System (NAS) Resources (NASR) is a relational data management system that collects, processes, and distributes aeronautical data in the form of electronic files, publications, and reports. NASR supports the day-to-day management of data about airports, runways, navigational aides, instrument landing systems, fixes, airways, military training routes, towers, and other fixed assets of the NAS. NASR is used to produce various aeronautical publications including the Airport/Facility Directory ("green book").<br><br>NASR, developed in 1999, is installed at the National Flight Data Center (NFDC -HQ 6th floor) and consists of a NASR processor and NFDC Workstations including the Temporary Flight Restriction (TFR) Builder. Backup (replication) systems are installed at the National Geodetic Survey (NGS) Office of NOAA and at the Technical Center. The NASR system at the Technical Center is used together with another system, the NAS Adaptation Service Environment (NASE) where the latter system performs filtering and adaptation of data to support software releases to major automation systems (e.g., STARS, ARTS, Host).<br><br>Web service access to NASR was introduced as eNASR in October 2005, hosted by a DMZ server. |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | TFM |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 49 / 6 |

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| | |
|---|---|
| Name: | National Lightning Detection Network |
| Acronym: | NLDN |

Description: The National Lightning Detection Network (NLDN) is currently a vendor-provided service from two vendors--Vaisala and US PLN (US Precision Lightning Network) that collect, process, and provide lightning data to the FAA. Other agencies also receive lightning data. Currently only groundstroke lightning data is used by various FAA users/systems.

If the business case can be made for how it will improve safety and/or operational efficiency, the FAA will likely also acquire inter-/intra-cloud lightning information in the future. Such information would be useful to improve the detection of convection-related turbulence, aid in thunderstorm forecasting, and provide additional lead time to airport ground personnel (e.g., refueling operations, etc.) of near/approaching lightning.

See ALDARS for how lightning data in integrated into automated surface observing systems located at NAS airports.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 696 / 3

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Name: National Offload Program

Acronym: NOP

Description: The Airspace Lab receives tracking data from each ATC automation system (ERAM, STARS, ARTS), collects the data in the NOP archives and extracts it with airspace tools such as the Sector Design and Analysis Tool - SDAT).

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 896 / 2

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Name: National Weather Service Telecommunications Gateway

Acronym: NWSTG

Description: Located in Silver Spring, MD, the National Weather Service Telecommunications Gateway (NWSTG) is the primary data communications switching facility of the National Weather Service (NWS). The NWSTG provides national and global near real-time data exchange services using automated communication resources, transmitting a wide variety of environmental data types. The NWSTG operates around the clock to acquire, process observations, construct messages, and disseminate messages and files of observations, analysis, and forecast products.

The NWSTG connects to the FAA's FAA Bulk Weather Telecommunications Gateway (FBWTG), located at the David J. Hurley Air Traffic Control System Command Center (ATCSCC) and is a major source of gridded weather data as well as aircraft weather observations via the Meteorological Data Collection and Reporting System (MDCRS). In addition, it provides the FAA with products from the Aviation Weather Center in Kansas City, MO that help mitigate the impact of weather (e.g., inflight icing, convection, and turbulence) on NAS operations.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 444 / 2

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Name: Next Generation Weather Radar

Acronym: NEXRAD

Description: The Next Generation Weather Radar (NEXRAD) system is a tri-agency (FAA, U.S. Department of Defense (DoD), and the National Weather Service (NWS)) network of Weather Surveillance Radar Model 88 Doppler (WSR-88D) systems. The Doppler weather radars identify and track heavy precipitation and thunderstorm attribute information such as high wind velocity, hail, tornado, wind shear, precipitation intensity, and echo tops products. Mosaics of multiple NEXRADs are provided by the Weather and Radar Processor (WARP) system to FAA controllers on the Display System Replacement (DSR) and to DoD and FAA oceanic controllers on the Microprocessor En Route Automated Radar Tracking System (MicroEARTS) to assist them in the control of aircraft in National Airspace System (NAS) airspace. NEXRAD products are also sent to traffic managers. Commercial weather vendors also receive NEXRAD products from the NWS.

The FAA also has 12 NEXRAD systems outside of the contiguous United States in Hawaii (4), Alaska (7), and Puerto Rico (1).

Additional information on NEXRAD can be found at URL http://www.roc.noaa.gov/

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 30 / 7

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Name: NextGen Backup Surveillance Capability

Acronym: NextGen Backup Surveillance Capability

Description: The NextGen Backup Surveillance Capability will provide cooperative surveillance service as a backup to Automatic Dependent Surveillance - Broadcast service in en route and terminal environments. A decision for implementation of the new Beacon system is planned for 2016 at NASEA Decision Point (DP) #78. A separate decision at DP #105 is planned for 2017 for limited implementation of a "New Beacon" system to replace Mode S systems in the en route and terminal environments. The New Beacon system may replace some ATCBI-5 systems that remain in the NAS.

The initial estimate for the number of "New Beacon" systems is 190. This count will change as requirements are defined.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Air / Ground
Enterprise Services
Facilities
Surveillance

Flight Domain(s): En Route, Terminal

Update Date: 01-Feb-2010 by James Grant

ID / Revision: 703 / 10

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Name: NextGen Far-Term Work Package

Acronym: NextGen Far-Term WP

Description: The NextGen Far-Term Work Package will combine capabilities of the NextGen Mid-Term Work Package into a common platform, along with the capabilities of En Route Automation NextGen Mid-Term WP. Required functionality will be "terminal-derived." All automation will be included in a Common Automation Platform.

State: Planned

Primary Roadmap: Automation

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|---|---|
| Secondary Roadmap(s): | Airspace and Procedures |
| Flight Domain(s): | Terminal |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 846 / 8 |

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| | |
|---|---|
| Name: | NextGen Mid-Term Work Package |
| Acronym: | NextGen Mid-Term WP |
| Description: | NextGen Mid-Term Work Package will include all Terminal Automation changes in the Mid-Term devoted to NextGen. System/hardware requirements will be determined by TAMR3. However, additional application development will proceed through the mid-term to address NextGen mid-term requirements for Terminal Automation, in parallel with En Route Automation NextGen Mid-Term WP:<br>Enhancements contemplated for inclusion in this Work Package are as follows:<br>* Trajectory coordination across ATC and TFM systems<br>* Trajectory data communications between ATM and cockpit automation including aircraft state and intent data<br>* Enhanced conflict probe and conflict resolution aids for controllers<br>* Facility consolidations resulting in potentially fewer centers, larger airspaces, where possible<br>* En Route, Terminal and/or Oceanic Operations using some common automation platforms, where possible |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Airspace and Procedures |
| Flight Domain(s): | En Route, Terminal |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 813 / 8 |

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| | |
|---|---|
| Name: | NextGen Network Enabled Weather |
| Acronym: | NNEW |

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|---|---|
| Description: | NNEW WP1 is the first phase of RWI/NNEW that will demonstrate timelier dissemination of observations and forecasts via netcentric access with an component called the 4-D Weather Cube (4-D Wx Cube). The 4-D Wx Cube will facilitate operational decision making with near real-time transfer of (or access to) improved observations and forecast weather information throughout the NAS to aid NextGen Air Navigation Service Providers and Users alike. Thus, it will enable them to collaborate and mitigate weather impacts on NAS operations and safety.<br><br>NNEW WP1 will also eventually subsume the functionality of WARP communication components--WINS (Weather Information Network Server) and FBWTG (FAA Bulk Weather TeleCommunications Gateway). Today, WINS disseminates various types of weather information from WARP to automation systems such as URET, DOTS+, and ATOP. Connecting to NWS' Telecommunications Gateway in Silver Spring, MD, the FBWTG brings in gridded data from the NWS modeling center, aircraft observations of winds and temperatures from MDCRS, and icing, turbulence, and convective products from NWS' Aviation Weather Center in Kansas City, MO.<br><br>Other components of NNEW WP 1 entail weather processing with the implementation of the NextGen Weather Processor Work Package 1 (NWP WP1), a component of NNEW WP1 that will likely be implementated in the 2013 timeframe. NWP WP1 subsumes the functionality of WARP and eventually that of CIWS.<br><br>Where these NNEW WP 1 components will reside has not yet been determined. That information will emerge pending the results of the FAA's acquisition process that will examine and analyze the alternatives for each NNEW component from a cost-benefit perspective. |
| State: | Planned |
| Primary Roadmap: | Weather |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 887 / 9 |

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| | |
|---|---|
| Name: | NextGen Surface Observing Capability |
| Acronym: | NextGen Sfc Obs Capab |
| Description: | NextGen Surface Observing Capability will replace the existing systems, e.g, ASOS/AWOS/AWSS, SAWS, F-420 & likely DASI with a single automated surface observing system (likely a joint venture with NWS, possibly DoD). |
| State: | Planned |
| Primary Roadmap: | Weather |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 02-Mar-2010 by Cindy Magee |

ID / Revision: 873 / 6

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Name: NextGen Surveillance and Weather Radar Capability

Acronym: NextGen Surveillance and Weather Radar Capability

Description: The ADS-B Backup Strategy, completed January 2007, recommends retaining terminal primary radar service at sites that currently have ASR systems.

A decision will be made on implementation of next generation primary radar system in 2017 to provide a "Next Generation Surveillance and Weather Radar Capability." The NextGen Surveillance and Weather Radar Capability would be implemented at selected sites based on the ADS-B backup strategy, air traffic safety, security and weather data requirements. Current plans are that the New Primary Radar would replace approximately 39 ASR-8 and 121 ASR-9 radar systems.

A decision on replacing the ASR-8 and ASR-9 is planned for 2017. A separate decision is planned for replacement of the ASR-11 in 2024.

Approximately 246 ASR sites would be evaluated for possible ASR replacement. Replacement requirements will be evaluated based on service life of existing systems, supportability, performance and new requirements.

The NextGen Surveillance and Weather Radar Capability will also implement weather requirements depending on an Investment Decision in 2018 as to whether to SLEP 1) Wind Shear systems, 2) ASR-9/11 Wx Channel and 3) NEXRAD or replace them with a NextGen Weather Surveillance Capability.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Enterprise Services
Surveillance
Airport

Flight Domain(s): En Route, Surface, Terminal

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 704 / 11

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Name: NextGen Weather Processor

Acronym: NWP

Description: The NextGen Weather Processor Work Package 1 (NWxP WP1) will not only subsume the functionality of the Weather and Radar Processor (WARP) system but will ingest additional data sets to include surface-, airborne-, and space-based data sets to meet the expanded weather requirements of NextGen. The NWxP WP1 is the initial implementation of the consolidation of weather processing.

In addition, NWP WP1 will have the functionality to provide a 0-2 hour forecast of convection and later on the capability to forecast convection out to 6 hours. And, algorithms that have matured out of the FAA's Aviation Weather Research Program may be included as well.

In addition, it will interface to the four dimensional (4D) Weather Cube to retrieve various data sets needed for processing into tailored forecast information that is required by Air Navigation Service Providers, airline dispatchers, pilots, and weather support personnel. Thus, the NWP WP1 will be able to provide weather services to NextGen-era users and their automation systems called NDOTS (for NextGen Decision Oriented Tools).

Furthermore, certain output will be stored in the 4D Weather SAS (single authoritative source) intended for use between traffic managers and airline dispatch to help resolve the impacts of weather on operations. Moreover, it will be SWIM (System Wide Information Management) compliant and support net-centric weather operations.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, Terminal

Update Date: 10-Mar-2010 by James Grant

ID / Revision: 728 / 11

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Name: Non-Directional Beacon

Acronym: NDB

Description: Non-Directional Beacons (NDB) are low frequency (LF) or medium frequency (MF) ground-based radio navigation aids that broadcast a continuous wave (CW) signal with a Morse code identification on an assigned frequency signal. NDBs are used by pilots to determine the aircraft's bearing to the ground station. Some state-owned and locally owned NDBs are also used to provide weather information to pilots.

NDBs can be used for non-precision approaches at low traffic airports, as compass locators (locator outer markers (LOMs)) to aid a pilot in finding the initial approach point of an Instrument Landing System (ILS), and for en route operations in remote areas. NDBs are approved as a primary navigation system in the National Airspace System (NAS).

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft

Flight Domain(s): En Route, Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 97 / 12

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Name: OX-60 Beacon Interrogator (Military)

Acronym: OX-60 BI

Description: The OX-60 Beacon is a secondary system collocated with the 12 joint-use FPS-117 long-range primary radars in Alaska and 1 joint-use FPS-117 in Hawaii. It is used to interrogate transponder-equipped aircraft, receive aircraft identification, determine aircraft position, and forward the information to appropriate U.S. Department of Defense (DoD) and FAA air traffic control (ATC) automation systems.

The OX-60 is a secondary (beacon) and collocated primary radar systems provide a correlated radar/beacon target output.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 478 / 7

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Name: Obstacle Repository System

Acronym: ORS

Description: TBD

State: Planned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 23-Apr-2010 by Steve Amato

ID / Revision: 1000 / 1

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Name: Obstruction Evaluation/Airspace Airport Analysis System

Acronym: OE/AAA

Description: In administering Title 14 of the Code of Federal Regulations, CFR Part 77, the prime objectives of the FAA are to promote air safety and the efficient use of the navigable airspace. To accomplish this mission, aeronautical studies on airspace obstructions are conducted based on information provided by proponents on an FAA Form 7460-1, Notice of Proposed Construction or Alteration.

Advisory Circular 70/7460-1K, Obstruction Marking and Lighting, describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, supporting structures of overhead wires, etc.

The Obstruction Evaluation/Airspace Airport Analysis System (OE/AAA) provides automated tools to enable the FAA regions to screen and track the status of over 45,000 obstruction evaluation notices annually, perform airport/airspace analyses, and maintain information on obstructions, airports, air navigation facilities, and communications facilities.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 418 / 6

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Name: Oceanic Computer System

Acronym: OCS

Description: The Oceanic Computer System (OCS) is Anchorage's unique oceanic flight data processing system. OCS provides flight data to Anchorage's Microprocessor En Route Automated Radar Tracking System (MicroEARTS) radar data processing system and for procedural air traffic control (ATC) separation assurance services in oceanic regions of the Anchorage Flight Information Region (FIR). Additionally, OCS implements it's own version of data link for Future Air Navigation System (FANS)-equipped aircraft in Anchorage's offshore airspace.

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 174 / 2

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Name: Oceanic Display and Planning System

Acronym: ODAPS

Description: The Oceanic Display and Planning System (ODAPS) consists of equipment that monitors and tracks aircraft over the ocean. It communicates and displays position data and flight plan information to the air traffic controllers responsible for monitoring and routing air traffic in the U.S. oceanic airspace. ODAPS has a situation display of aircraft position based on extrapolation of periodic voice position reports and filed flight plans. ODAPS includes a conflict probe (CP) functionality, which provides advance notification whenever stored flight plan information indicates that loss of separation minima may occur between aircraft, airspace reservations or warning areas.

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 109 / 2

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Name: Oceanic Flight Data Processing System

Acronym: OFDPS

Description: The Oceanic Flight Data Processing System (OFDPS) is the flight data processing system located at the Honolulu Control Center (HCF) Combined Center and Radar Approach Control (CERAP) site. It provides limited flight data processing including providing paper flight strips for the Micro-EARTS system at the CERAP and also provides flight data feed to the Guam CERAP.

OFDPS was rehosted onto new hardware using the existing OFDPS application software as part of the En Route Host/Oceanic Computer System Replacement (HOCSR) program.

OFDPS functionality will be sustained until 2011 when it may be replaced by Flight Data Processing (FDP) 2000 to achieve a common platform for future system integration.

A study of the requirements for the off-shore sites is being conducted to determine future plans for the automation. The results of the study are expected in early CY2009.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 192 / 6

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Name: Oceanic High Frequency Voice Service

Acronym: Oceanic HF Voice Svc

Description: Oceanic High Frequency Voice Service is used by oceanic and en route facilities that support air traffic control (ATC) services for aircraft flying over oceanic airspace. A commercial communications service provider (CCSP) provides the HF communications service as a contracted service to the FAA.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 30-Mar-2010 by Steve Amato

ID / Revision: 435 / 4

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Name: Oceanic Satellite Data Link Service

Acronym: Ocean Sat DL Svc

Description: The Oceanic Satellite Data Link Service is based on the International Civil Aviation Organization (ICAO) concept of a phased approach to implementing a modern, satellite-based, global Communication, Navigation, Surveillance/Air Traffic Management (CNS/ATM) system.

The following aircraft avionics are required to support an initial FANS implementation. These functions are referred to as FANS-1; the French developed equivalent for the Airbus A-330/340 is called FANS-A: Automatic Dependent Surveillance (ADS), air traffic control (ATC) data link, Airline Operational Center (AOC) data link, and the Global Positioning System (GPS).

The FANS operational environment extends beyond the aircraft to include satellite, ground-based receiver/transmitter stations, and a controller/pilot data link system.

FANS 1/A consists of three message applications: AFN (ATS Facility Notification for logon to ATC via data link), ADS (Automatic Dependent Surveillance), CPDLC (Controller Pilot Data Link Communications). FANS 1/A uses the existing Aircraft Communications Addressing and Reporting System (ACARS) air/ground network to carry data link messages to/from the aircraft.

FANS 1 (Boeing implementation) was first certified in June of 1995 for use in the South Pacific. Oakland, Fiji, Auckland, and Brisbane Flight Information Regions (FIRs) were the initial participants for CPDLC using Inmarsat geosynchronous satcom. The latter three FIRs also used ADS for surveillance.

An earlier version of the Operational Evolution Partnership (OEP) identified the Advanced Technologies and Oceanic Procedures (ATOP) program for implementation of FANS 1/A in Oakland, Anchorage and New York FIRs beginning in 2003. There are approximately 1,000 FANS 1/A equipped aircraft in service as of mid-2002. All long-range model commercial transport aircraft have FANS 1 or FANS A either as standard equipment or as an option. In oceanic and remote areas, where FANS 1/A is currently in use, the Inmarsat geosynchronous (GEO) satellite constellation provides the air/ground data link.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): Aircraft

Flight Domain(s): Oceanic

Update Date: 05-Apr-2010 by Steve Amato

ID / Revision: 431 / 14

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Name: Operational and Supportability Implementation System (Alaska)

Acronym: OASIS (Alaska)

Description: Operational and supportability implementation system (Alaska) [OASIS (Alaska)] is installed at the 3 AFSSs and 14 FSSs in Alaska to resolve legacy system data integrity and security issues. The OASIS contract is being extended pending a full and open competition for system development under the Alaska Flight Service Modernization (AFSM) program. OASIS will be used in Alaska until a replacement system is deployed.

OASIS incorporates the functions provided by the direct user access terminal (DUAT) service and the graphics weather display system (GWDS). Like the DUAT service, OASIS allows pilots to self-brief and file flight plans. OASIS will be integrated into the NAS-wide information service to receive weather and notices to airmen (NOTAM).

On February 1, 2005, the FAA awarded a contract for AFSS/FSS services in the Continental United States (CONUS), Puerto Rico, and Hawaii to Lockheed Martin Corporation. Lockheed's automation system, the Flight Service 21 (FS21), began a phased-in replacement (except for Alaska) of the FAA Model 1 Full Capacity (M1FC) and OASIS on October 4, 2005.

With continued FAA oversight, Lockheed Martin will maintain delivery of flight services including personnel and hardware systems as part of the FS21 contract. Additional information can be found at http://www.lmafsshr.com. As a result of FS21, OASIS was no longer required in CONUS, and the last OASIS was de-installed in late 2007. The phase out of the OASIS consisted of removal of all hardware from the 16 operational CONUS AFSS sites and the FAA Academy.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Flight Service

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 31 / 6

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Name: Operations Information System

Acronym: OIS

Description: The Operations Information System (OIS) is an intranet processor (like the Route Management Tool (RMT)) located at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC) and outlying Traffic Management Units (TMUs) including Air Route Traffic Control Centers (ARTCCs) and Terminal Radar Approach Control (TRACON) facilities for displaying current delay information, airport closures, significant weather information and additional National Airspace System (NAS) information that could affect the efficient flow of air traffic nationwide. Up to the minute ground delay, ground stop, deicing, and general airport delay information received from the above FAA facilities is publicly displayed via a web-based application.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 428 / 2

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Name: Performance Data Analysis and Reporting System

Acronym: PDARS

Description: The Performance Data Analysis and Reporting System (PDARS) is a set of fully integrated performance measurement tools. It consists of a nationwide network of facility-based computers, which provide outcome driven performance information to facility management. This metric information can then be "rolled up" for service area or national level performance analysis. This system extracts radar data from the Host Computer System (HCS), Automated Radar Terminal System (ARTS), or Standard Terminal Automation Replacement System (STARS) computer systems. It records and integrates flight plan and track data in an interactive database. The data can then be queried to establish outcome metrics such as net time, distance, altitude, reroutes, etc. with the fidelity necessary to make meaningful distinctions in the performance of various facilities (both en route and terminal). It processes and distributes this data to FAA facilities via a private, secure Intranet. Currently, the PDARS network extends to over 45 FAA facilities, service area offices, and the David J. Hurley Air Traffic Control System Command Center (ATCSCC). It is operated by over 375 trained specialists and generates over 500 individualized reports daily. The various capabilities of the PDARS tool set, allow Air Traffic personnel to review, analyze, replay, and quantify complex air traffic scenarios objectively and with the same degree of fidelity that is available during the actual operation.

PDARS has been utilized to populate the SMP "Dashboard" of the operational vice presidents and has accessed the National Traffic Management Log (NTML) at the ATCSCC. This enhancement has provided the capability, still under refinement, to provide fully automated metric capability from event occurrence to executive reporting. PDARS information is utilized in the development of the Airspace Flow Program (AFP) and has had a direct result on system capacity and efficiency. It provides the capability to monitor compliance with large scale planning initiatives aimed at increasing system capacity and reducing congestion in some of the nation's largest cities. For additional information see http://pdars.arc.nasa.gov/

See also the paper by Wim den Braven and John Schade, (2003), "Concept and Operation of the Performance Data Analysis and Reporting System (PDARS)," SAE Advances in Aviation Safety Conference (ACE), Montréal, September 8-12, Paper No 2003-01-2976, URL http://pdars.arc.nasa.gov/publications/2003-01-2976v002_PDARS.pdf

State: In-Service

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 08-Mar-2010 by Cindy Magee

ID / Revision: 713 / 4

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Name: Peripheral Adapter Module Replacement Item

Acronym: PAMRI

Description: The Peripheral Adapter Module Replacement Item (PAMRI) is an interface peripheral to the HOCSR. It provides a conduit through which the HOCSR receives and exchanges data, primarily radar data, flight data and interfacility data. The PAMRI converts communication protocols and translates data formats so the Host and EDARC can communicate with external devices.

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 9 / 2

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Name: Power Systems

Acronym: Pwr Sys

Description: The Power Systems (Pwr Sys) mechanism provides for the conditioning of commercial power, including uninterruptible power systems (UPS), to eliminate voltage dropouts, surges, and voltage sags caused by sources outside the facility. Power distribution, grounding, bonding, and shielding of electrical systems within the facility are also part of the Power Systems mechanism.

The Power Systems mechanism provides the following: Air Route Traffic Control Center (ARTCC) Critical/Essential Power Systems (ACEPS) busway replacements; ACEPS emergency generator (EG) maintenance; ACEPS monitoring and diagnostics; ACEPS fuel system upgrade; ACEPS training; battery monitoring; training facility; critical power distribution system (CPDS); battery replacements; direct current (DC) systems; emergency generators (EG); lightning protection, grounding, bonding, and shielding (LPGBS); power cables; uninterruptible power systems (UPS); and contract support.

Power Systems Sustained Support (Power Systems, Mechanism 1425) and Power Systems Technology Refresh (Mechanism 6353) are both funded out of single NAS project F11.00-00, Power Systems, currently funded through FY-2021.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 293 / 2

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Name: Precision Approach Path Indicator

Acronym: PAPI

Description: The Precision Approach Path Indicator (PAPI) is a simple visual aid to assist pilots during their approach to landing in Visual Flight Rules (VFR) conditions. It enables pilots to acquire the correct glide slope and subsequently to maintain their position on it, thus ensuring an accurate approach and landing. The PAPI system consists of four sharp transition projector units located at the side of the runway spaced laterally +/- 30 foot intervals. A second complementary set is sometimes provided on the opposite side of the runway. The setting angles of the red/white interfaces of the four units are graded; the differences in angle between the units being typically 20 minutes of arc. The nominal glide slope is midway between the angular settings of the center pair of units and the on-glide-slope signal and is thus two red and two white lights in the bar. If the aircraft goes below the glide slope, the pilot will see a progressively increasing number of red lights. Conversely, if the aircraft goes above the glide slope, the number of white lights seen is increased.

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 91 / 7

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Name: Precision Runway Monitor

Acronym: PRM

Description: The Precision Runway Monitor Service Life Extension Program (PRM SLEP) extends the service life of the PRM sensor (secondary radar system) through at least 2025. The PRM is similar to the Mode Select (Mode S), which operates and updates targets at a faster rate than that of the normal Air Traffic Control Radar Beacon System (ATCRBS) or Mode S system. This faster update rate provides improved precision in predicting target positions. The PRM system is utilized to increase efficiency of operations during instrument meteorological conditions (IMC) by allowing independent simultaneous approaches to parallel runways spaced less than 4,300-feet apart. The Standard Terminal Automation Replacement System (STARS) provides the display function for the air traffic controllers.

A decision for the continuation or removal from service of the Electronic Scan (E-SCAN) PRM will be based on required navigation performance (RNP) and the decision on implementing multilateration that is scheduled for 2009.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance
Airport

Flight Domain(s): Terminal

Update Date: 19-Feb-2010 by Steve Amato

ID / Revision: 576 / 12

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Name: Precision Runway Monitor : Alternate

Acronym: PRM-A (MLAT)

Description: The Precision Runway Monitor Alternate (PRM-A) system is a low cost cooperative surveillance system that uses Multi-lateration Technology (M/LAT) technology derived from ASDE-X to provide aircraft position and identification for parallel approach airspace volumes. The PRM-A system correlates surveillance data from terminal and surface radars, multi-lateration receivers, and Automatic Dependent Surveillance-Broadcast (ADS-B) systems.

PRM-A supports tracking and maintaining separation standards for aircraft on simultaneous independent approaches on parallel runways spaced less than 4,300 feet apart. Parallel approaches can be performed during poor visibility and adverse weather conditions without reduced delays and lost capacity. The target position update rate is one second as compared to 4.8 seconds with traditional terminal beacon systems. .

PRM-A data is displayed on high resolution displays and automation systems such as Standard Terminal Automation Replacement System (STARS). Automatic conflict alerting is also provided

PRM-A performance will be evaluated at the Detroit's Metropolitan Wayne County Airport (DTW) airport, as a first article test site, with plans for certification in 2008. The related Decision Point #36 may be moved to September 2009. The decision will determine whether to expand PRM-A implementation in the NAS and replace PRM E-Scan systems with PRM-A.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance
Airport

Flight Domain(s): Terminal

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 643 / 13

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Name: Precision Runway Monitor : Electronic Scan

Acronym: PRM-E/A

Description: The Precision Runway Monitor (PRM-E/A) system is a highly accurate electronic scan (e-scan) radar that tracks and processes aircraft targets at a 1-second update rate (as opposed to 4.8 seconds with conventional radars). The system is sometimes referred to as PRM-E. The PRM system provides controllers with automatic alerts and high-resolution displays that, in conjunction with specific procedures, enable pilots to fly simultaneous independent approaches to parallel runways spaced less than 4,300 feet apart. Without PRM parallel runways can be used for simultaneous independent approaches only during Visual Meteorological Conditions. With PRM, simultaneous independent approaches can be made to closely spaced parallel runways under Instrument Meteorological Conditions (IMC). The inability of pilots to conduct such approaches during adverse weather reduces throughput and increases delays.

PRM systems were commissioned at the Minneapolis-St. Paul International Airport (KMSP) in Oct. 1997, Lambert-Saint Louis International Airport (KSTL) in Oct. 1998, and Philadelphia International Airport (KPHL) in Sep. 2001. A PRM system was installed at New York's John F. Kennedy International Airport (KJFK) but was subsequently dismantled and removed. A PRM was commissioned at San Francisco International Airport (KSFO) in Oct. 2004. A PRM system was commissioned at Cleveland Hopkins International Airport (KCLE) in May 2005. A PRM was commissioned at the Atlanta Hartsfield-Jackson International Airport (KATL) in Apr. 2007.

Note that the PRM at Minneapolis-St. Paul (KMSP) was recently removed and sent to the FAA William J. Hughes Technical in Atlantic City, NJ.

PRM systems may be sustained until 2016 with service life improvements. However, a decision will be made in 2011 as to migration of PRM to PRM-A, based on multilateration technology.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): Terminal

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 128 / 14

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Name: Radar Audio Playback Terminal Operations Recording

Acronym: RAPTOR

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 987 / 1

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| | |
|---|---|
| Name: | Radio Communication Link |
| Acronym: | RCL |
| Description: | The Radio Communication Link (RCL) is an integrated voice and data microwave transmission system designed to provide the FAA with cost effective and reliable service for its high capacity National Airspace System (NAS) communications routes. The RCL interconnects Air Route Traffic Control Center (ARTCC) facilities with long-range radar installations and other air traffic control (ATC) facilities. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route |
| Update Date: | 02-Mar-2010 by Cindy Magee |
| ID / Revision: | 20 / 5 |

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| | |
|---|---|
| Name: | Radio Control Equipment |
| Acronym: | RCE |
| Description: | Radio Control Equipment (RCE), located at both air traffic control (ATC) facilities and remote communication sites control the operation of remotely located ground to air very high frequency/ultra high frequency (VHF/UHF) radios used by air traffic controllers to communicate with pilots. The RCE interfaces with the voice switch at the ATC facility, telephone landlines, and air-to-ground (A/G) radios at the En Route Remote Communications Air/Ground (RCAG) sites, Terminal Remote Transmitter/Receiver (RTR) sites, and Flight Service Station Remote Communications Outlet (RCO) sites.<br><br>The RCE Sustainment activities sustains and/or procures RCE to support 600 channels (1,200 units). The initial operational capability (IOC) is 01-Oct-2006 and final operational capability (FOC) is 30-Sep-2009 for sustainment.<br><br>The A/G Division anticipates a new RCE Sustainment effort will be needed to fill the gap from FY2015 through FY2025. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, Terminal |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 26 / 4 |

| | |
|---|---|
| Name: | Radio Coverage Analysis System |
| Acronym: | RCAS |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 988 / 1 |

| | |
|---|---|
| Name: | Radio Frequency Interference Elimination |
| Acronym: | RFI ELIM |
| Description: | The Radio Frequency Interference (RFI) Elimination Program supplies equipment and implementation funds to assist the regions in preventing, reducing or eliminating interference problems in the air-to-ground (A/G) communications environment. Products include linear power amplifiers (LPA), transmitter combiners, and receiver multicouplers.<br><br>In addition, funds are provided to the regions to purchase a variety of filters needed to reduce or eliminate RFI. The RFI Elimination Program is a collection of projects to improve communications for operational needs. These projects are mainly for correction of site specific deficiencies such as interference from amplitude modulation/frequency modulation (AM/FM) broadcast stations, and plastic welders. The reliability of communications for air traffic controllers to pilot and air traffic controller to air traffic controller is vital to the safe operation of the air traffic control.<br><br>RFI will not be segmented, since this project addresses RFI requirements as they surface across all domains. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 25-Feb-2010 by Cindy Magee |

ID / Revision: 281 / 4

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Name: Rapid Deployment Voice Switch : Type I

Acronym: RDVS I

Description: The Rapid Deployment Voice Switch Type I (RDVS I) is installed at Airport Traffic Control Towers (ATCT) and Terminal Radar Approach Control (TRACON) facilities with more than four air traffic controller positions. The RDVS is a modular system. The size of the switch is based on the number of controller positions in the facility. The RDVS I (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/ Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists. Air-to-ground (A/G) radio connectivity between ATCT controllers and pilots is also supported by the RDVS I.

The RDVS I (installed in the TRACON) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the RDVS I.
Note: There are two flavors of the RDVS - RDVS Type I - Litton and RDVS Type I - Denro.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 17 / 4

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Name: Rapid Deployment Voice Switch : Type II

Acronym: RDVS II

Description: The Rapid Deployment Voice Switch Type II (RDVS II) is installed at Airport Traffic Control Towers (ATCT) and Terminal Radar Approach Control (TRACON) facilities with more than four air traffic controller positions. The RDVS is a modular system. The size of the switch is based on the number of controller positions in the facility. The RDVS II (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists.

Air-to-ground (A/G) radio connectivity between ATCT controllers and pilots is also supported by the RDVS II. The RDVS II (installed in the TRACON) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS

specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the RDVS II. Note: There are two flavors of the RDVS II - RDVS Type II - Litton and RDVS Type II - Denro.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 22 / 4

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Name: Rapid Deployment Voice Switch : Type IIA

Acronym: RDVS IIA

Description: The Rapid Deployment Voice Switch Type IIA (RDVS IIA) is installed at Airport Traffic Control Tower (ATCT) facilities, Terminal Radar Approach Control (TRACON) facilities and can be configured for up to 192 air traffic controller positions. The RDVS IIA is a modular system. The size of the switch is based on the number of controller positions in the facility.

The RDVS IIA (installed in the ATCT) provides the air traffic control (ATC) operational ground-to-ground (G/G) voice communications intraconnectivity between controllers within an ATCT (intercom), interconnectivity between controllers in separate ATCTs (interphone), and interconnectivity between ATCT controllers and TRACON controllers/Air Route Traffic Control Center (ARTCC) controllers/Flight Service Station (FSS) specialists/David J. Hurley Air Traffic Control System Command Center (ATCSCC) specialists.

The RDVS IIA also supports air-to-ground (A/G) radio connectivity between ATCT controllers and pilots. The RDVS IIA (installed in TRACON facilities) provides the ATC operational G/G voice communications intraconnectivity between controllers within a TRACON (intercom), interconnectivity between controllers in separate TRACONs (interphone), and interconnectivity between TRACON controllers and ATCT controllers/ARTCC controllers/FSS specialists/ATCSCC specialists. A/G radio connectivity between TRACON controllers and pilots is also supported by the RDVS IIA.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 417 / 4

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| | |
|---|---|
| Name: | Real Time Intergrated Safety Modeling Capability |
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 26-Jan-2010 by Steve Amato |
| ID / Revision: | 941 / 1 |

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| | |
|---|---|
| Name: | Reduced Vertical Separation Minima Application |
| Acronym: | RVSM |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 989 / 1 |

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| | |
|---|---|
| Name: | Reduced Vertical Separation Minimum Altimeter |
| Acronym: | RVSM Alt (Domestic) |

Description: Reduced Vertical Separation Minimum Altimeter (Domestic) (RVSM Alt (Domestic)) is a source of altitude data or information that was added to support the RVSM capability. It consists of two independent altimeters with enhanced transducers or double aneroid sensors for computing altitude. The altitude source is connected through the static system to provide an automatic means of correcting the known static source error of the aircraft to improve aircraft altitude measurement capability. Domestic RVSM Alt may also be used to satisfy Oceanic RVSM and the altitude sensor may be included within an air data computer.

DRVSM was instituted in the conterminous United States (CONUS) in January 2005.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 05-Mar-2010 by Cindy Magee

ID / Revision: 265 / 3

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Name: Remote Maintenance and Logging System

Acronym: RMLS

Description: The Remote Maintenance and Monitoring System (RMMS) is a collection of subsystems that includes telecommunication components, hardware, and software, which serve to automate and streamline the maintenance and operations of the National Airspace System (NAS). Functions supported via the Remote Maintenance Monitoring system include equipment monitoring, outage reporting, control, certification, automated logging, and configuration management. RMMS subsystems consist of the Remote Monitoring System (RMS) hardware on the remote systems to be monitored, the Maintenance Automation System Software and Control Function (MASS / MCF), and the Maintenance Management System (MMS) software located on the Maintenance Processor System (MPS) at the Air Route Traffic Control Center (ARTCC). Other RMMS software applications include the Event Manager (EM) and Simplified Automated Logging (SAL).

The Remote Monitoring and Logging System (RMLS) will replace the MPS hardware, software and software applications. The RMLS is a combination of two rehost development efforts. The Logging Rehost effort involves rehosting EM, SAL and MMS functions. The Remote Maintenance Monitoring rehost effort is comprised of the monitor and control capabilities from the MASS / MCF software.

These systems plan to use the System Wide Information Management (SWIM) system to share data.

There are approximately 5,000 RMS units in service.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, Flight Service, Surface, TFM, Terminal

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|---|---|
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 36 / 10 |

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| | |
|---|---|
| Name: | Remote Maintenance and Logging System : NextGen Far-Term Work Package |
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Enterprise Services |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 942 / 6 |

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| | |
|---|---|
| Name: | Remote Maintenance and Logging System : NextGen Mid-Term Work Package |
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Enterprise Services |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 943 / 5 |

| | |
|---|---|
| Name: | Remote Maintenance and Logging System : SWIM Interface |
| Acronym: | RMLS/SWIM |
| Description: | the Remote Maintenance and Logging System : SWIM Interface defines the RMLS interface to SWIM during the SWIM Segment 2 phase. |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Enterprise Services |
| Flight Domain(s): | En Route, Surface, TFM, Terminal |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 945 / 9 |

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|---|---|
| Name: | Route Availabililty Planning Tool |
| Acronym: | ATM - RAPT |
| Description: | The Route Availability Planning Tool (RAPT) addresses an urgent need to increase the airport departure capacity in convective weather. In busy metroplexes such as New York, airways are tightly clustered and the proximity of adjacent arrival flows means that deviations around thunderstorms by departures cause serious disruptions to arrivals. As a result the departure flows are often shut down. The RAPT is a weather-assimilated decision support tool (DST) that supports the development and execution of departure management plans that more fully utilize the available departure capacity during Severe Weather Avoidance Plans (SWAP).<br><br>The RAPT integrates 3-dimensional (3-D) convective weather forecasts from the Corridor Integrated Weather System (CIWS) with the National Airspace System (NAS) airspace structure information (including aircraft trajectory information) to predict the availability of the filed departure route and, specifically designated coded alternative departure routes for an aircraft. Specifically the RAPT algorithms are dependent on CIWS convective and echo tops forecast products.<br><br>The demonstration system currently operates in the New York area, with program plans to conduct evaluations of the capability through fiscal year (FY) 2009, which includes other major metropolitan areas. The RAPT will include display of the RAPT information at terminal facilities including towers of the major airports for which RAPT service is provided. The RAPT will operate as a demonstration platform for evaluation and upon successful completion of the RAPT investment analysis the RAPT software package will be prepared as a NAS/CIWS enhancement.<br><br>The RAPT is a service provided by the Massachusetts Institute of Technology (MIT)/Lincoln Laboratory (LL) and as such has no procurement quantities. Additional information at URL http://www.ll.mit.edu/AviationWeather/RAPT-flyer.html |
| State: | In-Service |
| Primary Roadmap: | Automation |

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|---|---|
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 653 / 6 |

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|---|---|
| Name: | Runway End Identifier Lights |
| Acronym: | REIL |
| Description: | Runway End Identifier Lights (REIL) is an airport lighting system consisting of two flashing, white, high intensity lights located at each approach end corner of a runway. The REILs are directed towards the approach zone to enable pilots to identify the end of the runway.<br><br>REIL are mounted on frangible mounting systems. |
| State: | In-Service |
| Primary Roadmap: | Navigation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 92 / 7 |

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| | |
|---|---|
| Name: | Runway Status Lights |
| Acronym: | RWSL |
| Description: | Runway Status Light (RWSL) system uses surveillance data from airport surveillance sensors Airport Surface Detection Equipment Model X (ASDE-X), ASDE-3, and Airport Surveillance Radar Model (ASR) as input to runway lighting safety logic to improve pilot situational awareness in the airport operating areas. The RWSL program accepts fused surface radar and multilateration surveillance inputs to activate lights at runway/taxiway intersection points and runway take-off hold areas to help prevent collisions or reduce the severity of runway incursions.<br><br>The system includes two types of in-pavement lighting indicators to improve situational awareness. The first type of lighting indicators are Runway Entrance Lights (REL) which advise pilots when the runway is unsafe for entry or crossing at that location. The second type of lighting indicators are Take-off Hold Lights (THL) which provide a indication to pilots whether a runway is safe to enter or traverse due to traffic on the runway or about to enter the runway. |

The RWSL system will be installed at 19 ASDE-X airports. Support systems will be installed at the Program Support Facility (PSF) and the Training Academy. The system will incorporate airport-adaptable safety software and commercial off-the-shelf (COTS) airfield lighting equipment at selected airport locations. The safety logic and COTS lighting systems configured as required by the runway configuration at each airport.

ATO-P will evaluate applications using Final Approach Runway Occupancy Signal (FAROS) and Runway Intersection Lighting (RIL) as potential configurations.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Safety
Surveillance
Airport

Flight Domain(s): Surface

Update Date: 28-Jan-2010 by James Grant

ID / Revision: 612 / 13

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Name: Runway Visual Range

Acronym: RVR

Description: Runway Visual Range (RVR) systems provide support to precision landing and takeoff operations in the NAS. RVR is a system that will measure visibility, background luminance, and runway light intensity to determine the distance a pilot should be able to see down the runway. RVRs consist of visibility sensor, ambient light sensor, runway light intensity monitor, and processing units. The RVR interfaces with the ASOS system as well which enhance safety, increase system capacity, and improve maintenance with in CONUS.

In August 2005 the FAA awarded a contract to Vaisala for up to 77 MIDAS IV Runway Visual Range (RVR) System for its Personal Computer (PC)-based RVR System Program. The contract covers modification and delivery of a commercially available MIDAS IV RVR System, development of Controller Displays, as well as full program support. Delivery and installation of the new systems is anticipated from FY-2006 through FY-2010.

Further information can be found at:
http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/techops/navservices/lsg/rvr/

State: In-Service

Primary Roadmap: Navigation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 93 / 7

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Name: STARS MSAW Validation

Acronym: STARS MSAWVAL

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 990 / 1

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Name: Safety Risk Management Tracking System

Acronym: SRMTS

Description: tbd

State: Planned

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 08-Mar-2010 by Cindy Magee

ID / Revision: 944 / 3

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Name: Satellite Based Augmentation System

Acronym: WAAS (SBAS)

Description: WAAS is the GPS (Global Positioning System) Satellite-Based Augmentation System (SBAS) operated by the FAA. The system consists of a distributed array of reference and master stations designed to provide range correction and integrity information messages that are used by WAAS-capable GPS avionics to accurately determine an aircraft's 3-dimensional position. Accurately surveyed WAAS Reference Stations (WRS) receive and process GPS satellite range data which is forwarded to redundant WAAS Master Stations (WMS) for additional processing before sending the resulting correction data to redundant WAAS Ground Uplink Stations (GUS). The GUS transmit the data to geostationary satellites (GEO), which retransmit them on a GPS civil-use frequency for reception by GPS/WAAS avionics. WAAS enables aircraft to determine their position with an accuracy that will support precision and non-precision approaches and reduced longitudinal separation throughout the NAS.

The WAAS service volume includes the conterminous United States, Hawaii, portions of Alaska and the Caribbean, and the U.S. border areas with Canada and Mexico. Using just the single civil frequency that is currently available from GPS, WAAS supports a near-precision instrument approach capability termed Localizer Performance with Vertical Guidance (LPV)

The initial WAAS coverage and availability were improved in 2007 with additional WRS and relocated GEO's. The additional WRS's expanded WAAS coverage to the north (Canada) and south (Mexico), and improved performance on the fringes of the WAAS service area (e.g., southern Texas, southern California, and the New England states). The new GEO's provide dual coverage throughout the U.S.

Further program improvements are described in MechID 6474 (WAAS LPV).

State: Planned

Primary Roadmap: Navigation

Secondary Roadmap(s): Aircraft
Enterprise Services
Safety

Flight Domain(s): En Route, Terminal

Update Date: 09-Mar-2010 by James Grant

ID / Revision: 176 / 15

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Name: Satellite Based Augmentation System Avionics

Acronym: WAAS (SBAS) Avionics

Description: Update: November 9, 2006 - the Garmin GNS 400/500 series earned the FAA's Technical Standard Order (TSO) C146a Gamma-3 certification, which enables pilots who upgrade their Garmin receiver to fly Lateral-Precision with Vertical (LPV) guidance approaches and receive Global Positioning System (GPS) navigation via the Wide Area Augmentation System (WAAS). This upgrade will allow Garmin 400 or 500 series receivers to utilize WAAS starting in 2007.

Aircraft GPS avionics that are WAAS capable support both en route and terminal navigation. GPS/WAAS avionics are approved for use as a primary means of navigation within the contiguous United States (CONUS) for en route, terminal area, and non-precision approaches that require altitude and course guidance. WAAS equipped aircraft are capable of Lateral Navigation (LNAV)/Vertical Navigation (VNAV) non-precision approaches, and LPV guidance to near Category I altitude minimums, in accordance with published Standard Instrument Approach Procedures (SIAP).

See SatNav News at http://gps.faa.gov/Library/indexSatnav.htm for additional information.

State: Planned

Primary Roadmap: Air / Ground

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 80 / 7

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Name: Sector Design Analysis Tool

Acronym: SDAT

Description: The Sector Design Analysis Tool (SDAT) Enterprise is an FAA owned decision support tool for post-operation analysis and engineering of airspace and traffic flows. The tool suite is primarily focused on supporting the various activities undertaken by FAA Airspace Offices at local, regional and national levels. SDAT applications include airspace visualization, traffic flow analysis, and model integration.

SDAT provides multi-facility display and analysis of the interactions between airspace and traffic. The system includes full support for FAA data sources, project management and airspace modification/design. SDAT performs analysis of potential conflicts, traffic density and traffic loading in air traffic control sectors, military airspace and other airspace volumes.

The Sector Design and Analysis Tool runs on a PC workstation. The SDAT Enterprise tool suite currently consists of three components: SDAT, the high-end visualization and analysis tool; SDAT Construct, for data and project management; and AT Vista, an air traffic control (ATC) display emulator.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 544 / 6

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Name: Security Integrated Tool Suite

Acronym: SITS

Description: The Security Integrated Tool Suite (SITS) is part of the FAA's NextGen Implementation Plan and supports efforts to develop the Next Generation Air Transportation System. Functional and technical requirements, spiral development plans, and cross-platform interfaces (e.g., linkages between SITS and other air traffic management automation) need to be developed. These capabilities would be provided to select FAA users, as well in a customized form to interagency defense and homeland security partners (e.g., Department of Defense (DoD), Transportation Security Agency (TSA), Customs and Border Protection (CBP)) through a secure network, which enables shared access to an aviation security Common Operational Picture (COP) or, at least, a User Defined Operational Picture (UDOP) drawing on a common data set; real-time collaboration on monitoring, vetting, and operational response; and coordinated consequence management. This network, which will be built on a Service Oriented Architecture (SOA), will leverage enterprise grade database, processing, communications, and Information System Security (ISS) systems to support simultaneous, secure, and geographically distributed access by interagency users.

As the Air Traffic Organization (ATO) has taken on rapidly expanding national defense and homeland security mission areas, a serious gap is widening between the ATO's security specific automation needs and the systems and infrastructure both available today and defined heretofore in the FAA's existing investment plans. The current technological tools used by the ATO are naturally focused on the organization's traditional safety and capacity activities. Since the 2001 attacks, the ATO has been forced to substantially adapt the use of existing systems (e.g., Traffic Situation Display (TSD) and Temporary Flight Restrictions (TFR) Builder to support its security related missions. ATO has also leveraged very primitive tools such as the telephonic bridge used for the Domestic Evens Network (DEN), which has become the primary mechanism used by over seventy agencies to maintain shared situational awareness of and coordinate operational responses to security incidents involving the NAS.

While the ATO has been able to stretch the utility of these off-the-shelf systems, which were designed and deployed to enable safety and capacity functions, their inherent deficiencies as tools to effectively support security operations have become glaringly obvious. The lack of adequate aviation security focused tools, ranging from operational response systems to intelligence sharing and fusion mechanisms, has been highlighted by a number of Government Accountability Office (GAO) documents and other reports. Cited deficiencies include, but are not limited to: an inability to manage data on security incidents (e.g., violations of restricted airspace) to help "connect-the-dots"; the lack of automation to rapidly identify and track suspect flights using in-flight behavior, flight plan data, operator information, and flight trajectory in the context of security features (e.g., restricted airspace or proximity to sensitive ground locations); unavailability of a COP fusing data from multiple sources and agencies. Timely information can make a decisive difference in the outcome of an air security event. The safety and capacity centric systems currently available to the ATO security users and their interagency partners inadequately address this growing, critical gap.

This initiative is in alignment with the government-wide mandate to share information associated with law enforcement and security activities.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): TFM

Update Date: 02-Apr-2010 by Keith Talbert

ID / Revision: 747 / 11

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Name: Simplified Directional Facility

Acronym: SDF

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|---|---|
| Description: | Simplified Directional Facility (SDF) is a navigational aid (NAVAID) used for nonprecision instrument approaches. The final approach course is similar to that of an Instrument Landing System (ILS) localizer for lateral guidance to the approach procedure decision threshold. However, the SDF course may be offset from the runway, generally not more than 3 degrees, and the course may be wider than the localizer, resulting in a lower degree of accuracy. A glide slope path is not provided. The SDF signal is fixed at either 6 degrees or 12 degrees as necessary to provide maximum flyability and optimum course quality. Identification consists of a three-letter identifier transmitted in Morse code on the SDF frequency. The appropriate instrument approach chart will indicate the identifier used at a particular airport. The SDF transmits signals within the range of 108.10 to 111.95 MHz. The approach techniques and procedures used in an SDF instrument approach are essentially the same as those employed in executing a standard localizer approach except the SDF course may not be aligned with the runway and the course may be wider, resulting in less precision. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 426 / 2 |

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| | |
|---|---|
| Name: | Small Tower Voice Switch |
| Acronym: | STVS |
| Description: | The Small Tower Voice Switch (STVS) is an integrated air-to-ground (A/G) and ground-to-ground (G/G) voice switching system.<br><br>The STVS provides for the selection, interconnection, and activation of communications connectivity for the following connection types for Air Traffic Control Towers (ATCTs), Terminal Radar Approach Controls (TRACONs) and Flight Service Station (FSS):<br>- among operating air traffic control (ATC) positions within an ATC facility (intra-facility via intercom)<br>- between separate ATC facilities (inter-facility via interphone) including interfaces to Air Route Traffic Control Center (ARTCC), the David J. Hurley Air Traffic Control System Command Center (ATCSCC), and local and/or remote radio systems.<br><br>The STVS is specially designed for low activity operations. The STVS accommodates up to four positions and 12 radio/interphone (telephone) channels. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Surface |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 23 / 4 |

Name: Special Use Airspace Management System

Acronym: SAMS

Description: The Special-Use Airspace Management System (SAMS) supports the FAA military operations (MILOPS) mission. It automates the coordination of FAA and U.S. Department of Defense (DoD) scheduling of Special Use Airspace (SUA) and other areas tracked by MILOPS. Military air traffic control specialists submit SUA schedules using the Military Airspace Data Entry (MADE) subsystem of SAMS. SAMS disseminates this information to users affected by SUA restrictions and other special-purpose operations. SAMS provides the capability to create, store and retrieve activity schedules, to allow users to identify potential schedule conflicts among airspaces and other tracked areas, to review and amend previously submitted activity schedules, and to produce reports on demand.

SAMS production web servers and database servers are located at the FAA David J. Hurley Air Traffic Command System Command Center (ATCSCC). Web browser access to SAMS is available to registered users over the Internet, and is also deployed with dedicated circuits to 26 remote locations around the United States, including 21 Air Route Traffic Control Center (ARTCC) sites, three Terminal Radar Control (TRACON) sites, and two Approach Control Centers. Tabular and graphic displays of airspaces and airspace schedule information are made available on the SUA website as a public advisory function of SAMS.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, TFM

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 150 / 6

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Name: Stand Alone Weather Sensor

Acronym: SAWS

Description: The Stand Alone Weather Sensor (SAWS) is a standalone general surface observing system that provides a backup to certain Automated Surface Observing System (ASOS) weather parameters at low-level activity (Level C) Airport Traffic Control Towers (ATCT) that do not have contract weather observers. The SAWS automatically collects, processes, and displays weather data for wind speed, direction and gust; temperature and dewpoint temperature; and altimeter setting.

Originally scheduled to be implemented at 270 Level C airports, SAWS only went into about 120 airports. Other options [for remaining systems] being explored include using them for spares/replacement parts and also having the Regions install and maintain them at additional airports as needed.

SAWS sensors could also replace the aging F-420 wind sensors as well as the digital altimeter setting indicator (DASI) display.

In accordance with the NextGen Wx Roadmap, a decision will be made in 2016/2017 to replace SAWS and similar systems (e.g., ASOS, AWOS, AWSS, etc.,) with a single, automated surface observing system.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 329 / 7

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Name: Standard Terminal Automation Replacement System

Acronym: STARS

Description: The Standard Terminal Automation Replacement System (STARS) is a digital radar/flight data processing and display system for use by terminal air traffic controllers. Controllers use STARS to ensure the safe separation of military and civilian aircraft throughout the nation's airspace. STARS is capable of tracking up to 1350 airborne aircraft simultaneously within a terminal area. The color displays are specially developed for air traffic control and are capable of displaying six distinct levels of weather data (identified by different colors) simultaneously with air traffic, allowing controllers to direct aircraft around bad weather. The system interfaces with multiple radars (up to 16 short and long range), 128 controller positions, 20 remote towers, and a 400 by 400 mile area of coverage. STARS has two separate, fully redundant automation systems running in parallel providing an instantaneous back-up service to controllers. STARS technology is open, expandable and able to accommodate future growth as well as new hardware and software.

The STARS investment replaced aging air traffic control equipment at 47 (43 ARTS IIIA sites and 4 CARTS IIE sites) of our nations terminal radar approach control facilities (TRACONs) and air traffic control towers. The development phase is complete and all hardware has been purchased.

STARS enhancements are provided in 4 general categories as follows: (1) Interface and integration of external systems including: Precision Runway Monitor (PRM), Surface Movement Advisor (SMA), passive Final Approach Spacing Tool (pFAST), Airport Movement Area Safety System (AMASS), Noise Abatement Monitoring (NAM), Automated Barometric Pressure Entry (ABPE), active Final Approach Spacing Tool (aFAST) and Tower systems, (2) Surveillance Data Processing (SDP) enhancements including: SDP Upgrades that enhance precision and accuracy, data transfer using the All-purpose Structured EUROCONTROL Radar Information Exchange (ASTERIX) protocol, Automatic Dependent Surveillance-Broadcast (ADS-B) integration, ADS-B applications (including Surface Conflict Probe), safety function enhancements to Conflict Alert (CA) and Minimum Safe Altitude Warning (MSAW), and Ground Initiated Communications Broadcast (GICB), (3) Flight Data Processing (FDP) enhancements including: STARS to STARS interfacility and STARS flight data processing (FDP) upgrades.

Although STARS is intended eventually to replace the Common ARTS systems, the FAA has decided to defer that transition further until they can determine what smaller terminal facilities, if any, might best be consolidated into larger area facilities for future operations. This redirected program is called Terminal Automation Modernization and Replacement (TAMR). Phase 2 of the TAMR program is intended to enhance the services provided to high-risk CARTS sites and to prepare terminal automation for agency strategic initiatives. In FY 2006, Congress approved a reprogramming request to fund nine high-risk TAMR Phase 2 sites from the STARS (TAMR Phase 1) line item replacing 5 CARTS IIE systems with STARS and enhancing the CARTS IIIE equipment.

As of June 2008 STARS systems were operational at 49 FAA TRACONs (including 2 funded through TAMR Phase 2) and 50 Department of Defense (DoD) sites (including 5 outside the conterminous United States). Additionally, there are 8 STARS systems at WJHTC, 13 STARS systems at the Academy and 10 STARS systems at the OSFs supporting the operational FAA sites and 10 STARS systems at DoD facilities supporting the operational DoD sites. Also, the STARS FMA capability is operational at the Denver TRACON. STARS hardware has been delivered to the Dayton, OH TRACON but that facility is not expected to replace its existing ARTS IIIA system until construction is

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 61 / 8

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Name: Surface Movement Advisor (Atlanta)

Acronym: SMA (Atlanta)

Description: The Surface Movement Advisor (SMA) was implemented in 1998 as part of Collaborative Decision Making (CDM) and Free Flight Phase 1. SMA provides aircraft arrival information to airline ramp towers and AOCs. This includes aircraft identification and position in TRACON airspace, and which can be used to compute an aircraft's estimated time to touchdown. The shared situational awareness provided by SMA affords airline greater efficiency and productivity with respect to aircraft arrivals in terminal airspace and on the airport surface.
Goals:
- Provide Gate Resource Optimization
- Balance Taxi Departure Loads
- Improve Gate Rescheduling
- Facilitate Airport Operations Analysis
- Improve Crew Scheduling
- Improves recovery from missed approaches
- Reduces diversions during periods of inclement weather
- Improve planning, movement, and decision-making through shared situational awareness of surface operations.

Surface Movement Advisor increases awareness of traffic flow into the airport, giving ramp control operators precise touchdown times. This updated information helps airlines manage ground resources at the terminal more efficiently: gates, baggage handling, food services, refueling, and maintenance. Informed of aircraft identification and position in the terminal airspace, gate and ramp operators using SMA have enhanced ability to reduce taxi delays.
The ATL SMA system is based on a client-server architecture running in a UNIX environment. A fiber backbone between the airlines, the airport management, the ramp towers and the FAA Control Tower links the ATL SMA together. The system collects and manages various traffic data inputs from sources such as ARTS IIIE Air Traffic Control System AGW/TIA (TRACON RADAR data), OAG, FIDS, and ACARS in real time by the ATL SMA server and auxiliary network computer clients. The ATL SMA integrates the airline schedules, gate information, flight plans, radar feeds, and runway configuration (departure split and landing direction). The system then retransmits this integrated information over the network between ramp operators, airport managers, airline operators, and FAA controllers and supervisors.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 454 / 6

| | |
|---|---|
| Name: | Surveillance Interface Modernization |
| Acronym: | SIM |
| Description: | Surveillance Interface Modernization (SIM) is a portfolio approach to implementing Internet Protocol data distribution and connectivity and ASTERIX data formatting for surveillance and automation systems.<br><br>The SIM activity is intended to improve interface and data distribution for terminal and en route surveillance and automation systems. |
| State: | Planned |
| Primary Roadmap: | Surveillance |
| Secondary Roadmap(s): | Enterprise Services |
| Flight Domain(s): | En Route, Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 946 / 11 |

| | |
|---|---|
| Name: | Synthetic Vision System |
| Acronym: | SVS |
| Description: | Synthetic Vision Systems (SVS) are a set of technologies that provide pilots with intuitive means of understanding their flying environment. SVS systems provide situation awareness to the operators by using terrain, obstacle, geo-political, hydrological and other databases. A typical SVS application uses a set of databases stored on board the aircraft, an image generator computer, and a display. Navigation solution is obtained through the use of GPS and Inertial Reference Systems. |
| State: | Planned |
| Primary Roadmap: | Aircraft |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Oceanic, Surface, Terminal |
| Update Date: | 19-Mar-2010 by James Grant |
| ID / Revision: | 947 / 7 |

Name: System Wide Information Management

Acronym: SWIM

Description: The System Wide Information Management (SWIM) program provides for National Airspace System (NAS)-wide transport and sharing of information between the Federal Aviation Administration (FAA) systems and between FAA and external users. SWIM is a uniform single point of entry for Communities of Interest (COI) to publish and subscribe to NAS Services and NAS data. SWIM Segment 1 will implement four key services and capabilities.

The Interface Management (IM) Service enables Service Providers to expose NAS Services and enables Service Consumers to discover services in a service registry. IM also provides support for managing metadata.

The Messaging Management (MM) Service provides support for service invocation styles such as publish/subscribe, request/reply, message routing, queuing, and quality of Service (QoS) priority.

The Security Management (SM) Service implements mechanisms to enforce security policies at the application level (services and messages) to ensure confidentiality and integrity are maintained.

The Enterprise Service Management (ESM) Service provides Governance to manage services across all service lifecycle phases based on QoS and key requirements. ESM also provides monitoring of system service performance and usage.

SWIM Core Services will be implemented using Commercial Off The Shelf (COTS) software and existing NAS infrastructure.

The SWIM Core Services support three key domain areas and Community of Interest (COI) capabilities in the areas of Aeronautical Information Management (AIM), Weather, and Flight & Flow Management (FFM).

AIM includes Special Use Airspace (SUA) automated data exchange. The Weather area includes Corridor Integrated Weather System (CIWS) Publication, Integrated Terminal Weather System (ITWS) Publication, and Pilot Reports (PIREP) Data Publication.

The FFM area includes Flight Data Publication, Terminal Data Distribution, Flow Information Publication, Runway Visual Range (RVR) Publication, and Reroute Data Exchange.
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SWIM Service Container:
* SWIM core services technology application software that resides on NAS System SWIM Servers and provides an environment in which the NAS Air Traffic Management (ATM) Service Endpoint software can operate. Utilizing the Service Container, ATM application interfaces are standardized and decoupled with message brokering services enabling application to application binding and information exchanges.

The SWIM Implementation Programs (SIPs) are implementing the SWIM Service Container to provide the initial delivery of SWIM Core Services for messaging and security services.

Design-time Registry/Directory:
* The technology used to capture the metadata characteristics and designed of SWIM executable services. The Design-time Registry/Directory contains service contract specification, service interface specification, content specification, and configurations for service discovery and exposure.
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The FAA Joint Resources Council (JRC) approved the System Wide Information Management (SWIM) Segment 1 initial investment decision (JRC 2A) on 17 July 2006 and a final investment decision (JRC 2B) on 21 June 2007.

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SWIM Segments Historical Trailer:

The SWIM program is headed by ATO-W Ahmad Usmani.

SWIM implementation in FY08 will be limited to two WJHTC Laboratory sites for testing and development purposes only.

The WJHTC is implementing a SWIM Design-time Registry/Directory is support of the SWIM Service Container System implementation by the SIPs.

State: Planned

Primary Roadmap: Enterprise Services

Secondary Roadmap(s): Communications

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 656 / 14

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Name: Systems Atlanta Information Display System

Acronym: SAIDS

Description: A Systems Atlanta Information Display System (SAIDS) enables users to collect and/or input, organize, format, update, disseminate, and display both static (e.g., approach plates, charts) and real-time data regarding weather and other rapidly changing critical information to air traffic controllers and Air Traffic Control (ATC) supervisors/Managers. SAIDS is installed at Airport Traffic Control Tower (ATCT) facilities, Terminal Radar Approach Control (TRACON) facilities, Air Route Traffic Control Center (ARTCC) facilities, Combined Center and Radar Approach Control (CERAP) facilities, FAA regional offices, Airports, Airline Operations Centers (AOCs), and military facilities. SAIDS is also known as Information Display System 4 (IDS-4). IDS-4 workstations include 135 systems at 390 facilities, including 25 of the 35 Operational Evolution Plan (OEP) airports.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 158 / 7

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Name: TIS Avionics

Acronym: TIS Avionics

Description: Traffic Information System Avionics (TIS Avionics) receive signals from Mode Select (Mode S) ground-based beacon interrogators that contain position information on all aircraft responding to its interrogations and provides relative position of aircraft in the immediate vicinity to the flight crew displays.

State: Not Set

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 224 / 2

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Name: TPX-42 BI

Acronym: TPX-42 BI

Description: The TPX-42 beacon interrogator is a military analog interrogator (Identify Friend or Foe (IFF)) system used to detect and report the identity and location of aircraft in a specific volume of airspace. The designation TPX-42 may also refer to a complete beacon and display system. The TPX-42 beacon interrogator subsystem It is used in conjunction with the DOD GPN-20 military airport surveillance radar (ASR) and FAA ASR-9. The TPX-42 is similar to the FAA's Air Traffic Control Radar Beacon Interrogator Models 4 and 5 (ATCBI-4/5). TPX-42 systems provide service to the NAS.

Plans are to replace the TPX-42 beacon systems as the DASR or ASR-11 systems are implemented. Three DOD systems, collocated with ASR-9 primary systems at Hill AFB, may remain operational for the near term. Replacement systems have not been designated.

State: Not Set

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 581 / 2

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Name: Temporary Flight Restriction Builder

Acronym: TFR Builder

Description: tbd

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 948 / 5

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Name: Terminal Area Route Generation Evaluation and Traffic Simulation

Acronym: TARGETS

Description: MITRE's Center for Advanced Aviation System Development (CAASD) has created a tool that helps U.S. RNAV (area navigation) procedure developers do their work faster, easier and more accurately.

The tool, dubbed TARGETS (terminal area route generation, evaluation, and traffic simulation), has visualization features and a ready access to design data to make the process of developing new RNAV routes and procedures repeatable, consistent and verifiable, and therefore more economically viable. RNAV routes allow more direct point-to-point flying that reduces the zigzag flight paths that are common when flights are forced to fly over ground navigation aids.

Also, when aircraft need to be vectored (assigned headings, altitudes and speeds by controllers), RNAV procedures can reduce the number of controller clearances and reciprocal acknowledgements from pilots - presently done by voice - from approximately eight to two or three. And because RNAV routes enable self-navigation, fewer altitude crossing restrictions and speed assignments are required. Aircraft not equipped with RNAV capabilities can fly the traditional vectors.

Additional information at http://www.mitre.org/work/tech_transfer/targets.html

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 545 / 2

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| | |
|---|---|
| Name: | Terminal Automation Modernization and Replacement |
| Acronym: | TAMR |
| Description: | Although STARS is intended eventually to replace the Common ARTS systems, the FAA has decided to defer that transition further until they can determine what smaller terminal facilities, if any, might best be consolidated into larger area facilities in the future. This redirected program is called Terminal Automation Modernization and Replacement (TAMR).<br><br>TAMR P3 will enhance STARS Terminal Radar Approach Controls (TRACONS) and/or replace Common Automated Radar Terminal System (CARTS) at the 106 TRACONS not yet modernized. The 106 sites include 7 CARTS IIIEs and 99 CARTS IIEs. The 7 CARTS IIIE sites represent some of the largest and busiest commercial and general aviation facilities in the NAS. The CARTS IIIE - TAMR Phase 3 segment, if implemented, would upgrade the CARTS IIIE systems to meet future operations.<br><br>A goal of TAMR P3 will be to contribute to the decision to identify common front end display hardware beginning in 2010. The program would enhance the services provided to these locations by capitalizing on existing and new to state-of-the-art digital, radar and flight data processing and display systems.<br><br>The FAA will continue to sustain the automation systems at these sites while monitoring system performance to identify any risk to service presented by these systems. Modernization or replacement of these systems will be evaluated and performed incrementally on a risk-to-service basis and will be aligned with other Air Traffic Control Tower (ATCT) and TRACON replacement and improvement program activities. Other Agency strategic initiatives, such as Data Communications (DATACOMM) Segment 2 and the Next Generation (NextGen) Automation Platform (NAP), may also require the modernization or replacement of these systems. |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | Enterprise Services |
| Flight Domain(s): | Terminal |
| Update Date: | 02-Apr-2010 by Keith Talbert |
| ID / Revision: | 772 / 10 |

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| | |
|---|---|
| Name: | Terminal Automation NextGen Mid-Term WP |
| Acronym: | TBD |
| Description: | TBD |
| State: | Planned |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |

Flight Domain(s): None

Update Date: 10-Mar-2010 by Steve Amato

ID / Revision: 956 / 1

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Name: Terminal Data Distribution System

Acronym: TDDS

Description: The Terminal Data Distribution System (TDDS) is part of the new Terminal local area network (LAN) based architecture implemented by System Wide Information Management (SWIM) to facilitate flight message exchange with other National Airspace System (NAS) systems. The TDDS attaches to the Terminal Flight Data Manager (TFDM), which collects and formats flight messages using the Common Message Set (CMS) format, and functions as the Point of Presence (POP) database system to enable SWIM message exchanges between Tower Flight Data Manager (TFDM), En Route Automation Modernization (ERAM), Traffic Management Advisor (TMA), and Traffic Flow Management System (TFMS).

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 717 / 6

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Name: Terminal Doppler Weather Radar

Acronym: TDWR

Description: The Terminal Doppler Weather Radar (TDWR) system detects hazardous weather conditions such as windshear, microbursts and gust fronts, tornadic winds, heavy precipitation (inferring thunderstorms at an airport). This weather information is generated by the Radar Product Generator (RPG) and provided to air traffic on displays at terminal facilities. In addition, a TDWR provides alerts (both aural and textual) of detection wind shear/microburst activity in the approach/departure corridors. The TDWR also provides a 10- and 20-minute prediction of gust front location and movement using a Machine Intelligent Gust Front Algorithm (MIGFA).

The TDWR is also a main source of radar data to the Integrated Terminal Weather System (ITWS), which uses the reflectivity data in its microburst prediction algorithm.

Recently, the NWS began receiving data from numerous FAA TDWRs and built a special product generator to process TDWR radar data and provide products to aid NWS Forecast Office forecasters.

Review Article: Weber, Mark E. (2006) "Advances in Operational Weather Radar Technology," Lincoln Laboratory Journal, Vol. 16, No. 1, pp. 9-30. [http://www.ll.mit.edu/news/journal/pdf/vol16_no1/16_1_2Weber.pdf]

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 32 / 7

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Name: Terminal Track Analysis Program

Acronym: TTAP

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 991 / 1

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Name: Terminal Weather Information for Pilots

Acronym: TWIP

Description: The Terminal Weather Information for Pilots (TWIP) system provides jetliner pilots with direct access to limited weather information from each of 46 Terminal Doppler Weather Radar (TDWR) sites via a commercial communications service provider. TWIP enables jetliner pilots of equipped aircraft to view a rough depiction of hazardous weather (heavy precip, windshear/microbursts) similar to what is displayed to Tower and TRACON controllers.

At those TDWR sites where the Integrated Terminal Weather System (ITWS) has been implemented, the TWIP functionality will be transferred onto the ITWS. TWIP functionality may eventually be provided from the Weather System Processor (WSP) sites as well.

It is possible that TWIP functionality may be transferred to an Air Segment of SWIM in the future.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface, Terminal

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 222 / 4

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Name: Terrain Awareness and Warning System

Acronym: TAWS

Description: A Terrain Awareness and Warning System (TAWS) accepts position data from the position calculator function (navigation avionics), detects possible terrain collisions and sends warning alerts to the flight crew via the aircraft audio and display systems.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Surface, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 383 / 7

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Name: Time Based Flow Management

Acronym: TBFM

Description: The Time Based Flow Management (TBFM) Program will:

(a) expand the rule and scope of time-based metering operations more widely throughout the NAS,

(b) develop and implement mature initiatives,

(c) demonstrate proof of concept, prototyping, and planning for future initiatives, and

(d) close the performance gap in transition of Traffic Management Advisor (TMA) system to the follow-on system called Integrated Enterprise Solution (IES).

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 821 / 8

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Name: Time Based Flow Management : Integrated Enterprise Solution

Acronym: TBFM/IES

Description: The Time Based Flow Management/Integrated Enterprise Solution (TBFM/IES) system provides for allocation of functionality developed under Time Based Flow Management (TBFM) Program among the Traffic Flow Management System (TFMS), En Route Automation and Modernization (ERAM), and TFMS/IES. TBFM-IES will be supportive of the Point in Space Metering enhancements needed for NextGen. Potential enhancements include:

TFFM Initiatives
(a) Integrated Metering (OI 104120) Point in Space Metering
- Coupled scheduling within all TBFM systems to allow meter points to be configured anywhere in En Route airspace, beyond meter fix and meter fix arc.

(b) RNAV/RNP Routing and Procedures (OI 104123) Time Based Metering Using RNAV/RNP
- Changes to TMA trajectory prediction calculations that allow eligible aircraft and flight crews access to specified 3D RNAV/RNP paths.

(c) System Re-Architecture
- Tech refresh to replace TMA system end-of-life components
- TBFM SWIM Compliant
- Utilize dedicated TBFM string for preview capability

(d) Convective Weather Display
- Display current and forecast convective weather with traffic on the PGUI

(e) Deployments
- Extend TBM operations from the 20 ARTCCs and 22 high-density airports to

optimize the flow of aircraft into capacity-constrained areas

(f) Metering Analysis and Improvement
- Performance measures and reporting for improved effectiveness

(g) Information Sharing
- Data sharing between TBFM and other NAS systems and increased collaboration between TBFM and industry

(h) Improved Wind Data
- Utilize newer RUC 13 weather data in the generation of 4D trajectory calculations to improve Estimated Time of Arrival

(i) Accelerated Arrivals
- Enable TBFM to optimize slot usage and efficiency

IEFS Initiatives
(j) NextGen
- Integration of TMA into existing system (IES)
- Dynamic Selectable Meter Points
- Incorporate Surface Data (Integrated Arrival and Surface)
- 3D PAM

(k) Preview Trial Part 2

(l) Dynamic Planner as a service

(m) Weather/Trajectory Enhancements

Cross Domain
1. TBFM/En Route
- Prototyping and Support for extended time based metering (En Route display and processing enhancements)
- Migration of TMA from CMS to ERAM FIS

2. TBFM/Terminal
- Prototyping, simulation and support for:
  * TRACON/Terminal Metering
  * Integration of Surface data

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Airspace and Procedures
Enterprise Services

Flight Domain(s): TFM

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 822 / 12

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Name: Timing Backup

| | |
|---|---|
| Acronym: | tbd |
| Description: | tbd |
| State: | Planned |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 05-Mar-2010 by Cindy Magee |
| ID / Revision: | 950 / 2 |

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| | |
|---|---|
| Name: | Tower Data Link System |
| Acronym: | TDLS |
| Description: | The Tower Data Link System (TDLS) automates tower-generated information for transmission to aircraft via data link. The TDLS interfaces with sources of local weather data and flight data and provides pilots with Pre-Departure Clearance (PDC), Digital-Automatic Terminal Information System (D-ATIS), and emulated Flight Data Input/Output (FDIO). The PDC helps tower clearance delivery specialists compose and deliver departure clearances. The Digital Automatic Terminal Information Service (D-ATIS) provides high reliability messages of runway and taxiway instructions, information on avionics equipment, frequency outages, and local weather conditions worldwide. The TDLS data is transmitted in text form via the Aircraft Communication and Reporting System (ACARS) to an ACARS-equipped aircraft for review and acknowledgment by the flight crew.<br><br>Incorporating D-ATIS into TDLS allows: (1) Real-time ATIS updates throughout the National Airspace System (NAS), (2) Text message printouts, vice hand written recordings, (3) Pilots to receive destination ATIS information, prior to take-off.<br><br>In the current system configuration, the FAA supplies the TDLS service application system (server) and a Commercial Communications Service Provider (CSSP) (i.e., ARINC) provides the communications delivery. Terrestrial communications delivers the messages to a gate printer and radio frequency communications delivers the messages to the aircraft cockpit.<br><br>In the far-term, the TDLS server will be replaced by the "Terminal Flight Data Manager" server and DataComm is projected to provide radio communications delivery to the aircraft. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | Surface |
| Update Date: | 20-Mar-2010 by Keith Talbert |

ID / Revision: 206 / 13

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Name: Tower Flight Data Manager

Acronym: TFDM

Description: The Tower Flight Data Manager Phase 1 (TFDM1) mechanism will integrate the Airport Resource Management Tool (ARMT), Tower Data Link Services (TDLS), Surface Movement Advisor (SMA), and Airport Movement Area Safety System (AMASS) functions. Terminal will determine through trade studies the means of integrating four additional legacy systems: Flight Data Input Output, Electronic Flight Strip Transfer System (EFSTS), Advanced Electronic Flight Strips (AEFS)/Electronic Flight Strips (EFS), and Departure Spacing Program/Departure Flow Management (DSP/DFM), the latter of which will reside as a new component (known as the Integrated Departure/Arrival Capability) in either TFDM or TFMS.

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): Airspace and Procedures
Communications
Enterprise Services

Flight Domain(s): Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 706 / 13

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Name: Traffic Alert and Collision Avoidance System

Acronym: TCAS

Description: A Traffic Alert and Collision Avoidance System (TCAS) broadcasts interrogations and receives responses from Air Traffic Control Radar Beacon System (ATCRBS) Mode A/C and Mode Select (Mode S) transponders within range. TCAS processes these responses to provide warnings, advisories, and visual proximity information to the flight crew via a cockpit display.

State: In-Service

Primary Roadmap: Aircraft

Secondary Roadmap(s): None

Flight Domain(s): En Route, Oceanic, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 76 / 7

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Name: Traffic Analysis Review Program

Acronym: TARP

Description: The Traffic Analysis and Review Program (TARP) provides automated notification of potential losses of separation that can result in operational errors. The data collected by TARP will allow air traffic managers to better analyze the factors that lead to operational errors, reducing future occurrences and support more effective and efficient air traffic controller training. Software development for the TARP initial baseline was completed during fiscal year 2006 and deployment to Terminal began in 2008.

TARP is a state-of-the-art traffic analysis and playback system that will improve operations error identification and quality assurance. The high-fidelity, near-real time playback feature of TARP will also support more effective and efficient air traffic controller training.

State: In-Service

Primary Roadmap: Safety

Secondary Roadmap(s): None

Flight Domain(s): Terminal

Update Date: 08-Mar-2010 by Cindy Magee

ID / Revision: 899 / 4

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Name: Traffic Flow Management System

Acronym: TFMS

Description: The Traffic Flow Management System (TFMS) began with technology refresh of the infrastructure equipment and workstations of the predecessor legacy system, Enhanced Traffic Management System (ETMS). TFMS is evolving through four Work Packages managed under the Collaborative Air Traffic Management Technologies (CATMT) program. CAMTT will enhance and integrate the legacy applications and develop new applications consistent with NextGen Enterprise operations.

TFMS is a set of networked workstations used for Air Traffic Management operations across the NAS. Core operations of TFMS are conducted at the FAA David J. Hurley Air Traffic Control System Command Center (ATCSCC) and satellite operations are conducted within the Traffic Management Units (TMUs) at approximately 77 remote facilities. Remote TMUs are located at Air Route Traffic Control Centers (ARTCCs), Terminal Radar Approach Control (TRACON) facilities and large/stand alone Airport Traffic Control Towers (ATCTs).

The hub backup of TFMS is located at the FAA William J. Hughes Technical Center (WJHTC), which was established in 2007 following relocation from the Volpe Center.

See CATMT Work Packages for descriptions of enhancement to TFMS.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, Surface, TFM, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 82 / 7

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Name: Traffic Information Service - Broadcast

Acronym: TIS-B

Description: The Surveillance and Broadcast Services (SBS) Automatic Dependent Surveillance-Broadcast (ADS-B) equipped aircraft exchange ADS-B messages, acquiring a traffic picture limited to ADS-B equipped aircraft in their proximity. Traffic Information Service - Broadcast (TIS-B), in conjunction with the Automatic Dependent Surveillance-Re-Broadcast (ADS-R) service, will provide equipped aircraft the information needed for a comprehensive air and airport surface picture of traffic in their vicinity. TIS-B messages include targets reports from ground-based surveillance radar, or other non-ADS-B surveillance. TIS-B messages are broadcast on both the UAT and 1090ES data links for reception by equipped aircraft.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Aircraft

Flight Domain(s): En Route, Flight Service, Oceanic, Surface, TFM, Terminal

Update Date: 19-Mar-2010 by James Grant

ID / Revision: 787 / 9

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Name: Traffic Management Advisor

Acronym: TMA

Description: Traffic Management Advisor (TMA) computes flight arrival sequencing, scheduled time of arrival (STA), and estimated time of arrival (ETA) at various points along the aircraft flight path to an airport. These points include an outer meter arc, the meter fix, the final approach fix, and runway threshold. In response to changing events and controller inputs, TMA provides results to the en route sector team to maintain optimum flow rates to runways. It does this by providing continual updates of meter fix STA and delay information at a speed comparable to the live radar update rates. The team defines maneuvers and issues clearances so aircraft cross the meter fixes at the STA. Since TMA calculates a schedule for arriving aircraft to meet Terminal Radar Approach Control (TRACON) facility acceptance rates set by Traffic Management Specialists (TMSs), selected airports must be the basis for a TMA deployment plan. TMA also maintains statistics on the traffic flow and the efficiency of the airport and displays them to TMSs. TMA system came online at Indianapolis and Kansas City Centers August 22, 2007, completing the system's deployment at all the centers in the continental United States.

A paper Joint Resources Council (JRC) decision was approved on 01 May 2007 and a Record of Decision (ROD) was issued.

State: In-Service

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): En Route, Terminal

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 217 / 7

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Name: U.S. Notice to Airmen System

Acronym: USNS

Description: The NAS Aeronautical Information Management Enterprise System (NAIMES) was an "enabler" providing customers and stakeholders with "one-stop" access to critical aeronautical information products and services. NAIMES facilitated the transition of NAS operations from the legacy system-centric (point-to-point) to network-centric (point-to-cloud) by utilizing both new and existing infrastructure, and developing associated policies and standards. As of the spring of 2007 NAIMES is now called Aeronautical Information Management (AIM). It is in the Air Traffic Organization (ATO) System Operations' Airspace and Aeronautical Information Organization.

AIM is the data steward for critical NAS aeronautical information including Notices to Airmen (NOTAM) messages, graphical Temporary Flight Restrictions (TFRs), flight plans, and alphanumeric weather products.

AIM provides upgrades and enhancements for seven primary systems: NAS Resources (NASR), the U.S. NOTAM System (USNS), the Defense Internet NOTAM service (DINS), the NAS operational Internet Access Point (IAP) service, the Central Altitude Reservation Function (CARF), Aeronautical Integrated Data Access Portal (AIDAP), and the Aeronautical Information System Replacement (AISR).

It was planned to have initial policy changes made in February 2008 when a General Notice will be issued to align NOTAM D criteria with ICAO NOTAM criteria and eliminate L NOTAMs. By 2009 the goal is to have a single federal NOTAM system that is ICAO compliant. The next decade should see the system have digital and graphical capabilities - which will be required for the Next Generation Air Transportation System (NextGen).

For the most recent information check the Service Level Review Briefings and Minutes which are located at URL http://ipm.faa.gov/jrc/decisions_minutes/SLRmins.cfm

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): TFM

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 420 / 5

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Name: UPX-39 Beacon Interrogator (Military)

Acronym: UPX-39 BI

Description: The UPX-39 BI is a new secondary surveillance radar (SSR) beacon system that will replace the 12 OX-60 secondary BI radars in Alaska (12) and Hawaii (1) at the 13 joint-use (FPS-117 primary radar) facilities to improve the quality, reliability, and availability of radar data used for air traffic control (ATC) and to reduce FAA and United States Air Force (USAF) maintenance costs. The FAA will use existing interfaces to provide the radar data to the Air Route Traffic Control Center (ARTCC) facilities. The FAA provides technical support and funds its share of the cost associated with the fabrication, installation, and acceptance of 13 systems at the joint-use radar facilities.

The UPX-39 and collocated primary radar systems provide a correlated digital output to NAS and non-NAS users.

State: In-Service

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route

Update Date: 29-Jan-2010 by James Grant

ID / Revision: 477 / 7

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Name: Ultra High Frequency Ground Radios

Acronym: UHF Ground Radios

Description: Ultra high frequency (UHF) Ground Radios are analog UHF amplitude modulation (UHF - AM) radio devices operating in the 225 - 400 MHz frequency band. The radios are also single channel transmitters and receivers (transceivers) operating in a main/standby configuration. These ground-based devices support tactical air traffic control (ATC) voice communications and coordination between the ground-based controller and the aircraft pilot for all phases of flight and in all flight domains (i.e., Oceanic, En Route, Terminal, and Flight Service Station (FSS).

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route, Flight Service, Surface, Terminal

Update Date: 05-Mar-2010 by Cindy Magee

ID / Revision: 384 / 5

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Name: Universal Access Transceiver Avionics

Acronym: UAT Avionics

Description: The Universal Access Transceiver (UAT) is an Automatic Dependent Surveillance-Broadcast (ADS-B) link technology that operates at 978 MHz. It will become part of the ITT Industries Team for the commercial Surveillance Broadcast System (SBS) service.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 05-Mar-2010 by Cindy Magee

ID / Revision: 739 / 3

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Name: Unstaffed Infrastructure Sustainment

Acronym: UIS

Description: TBD

State: Planned

| | |
|---|---|
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 15-Apr-2010 by Steve Amato |
| ID / Revision: | 958 / 3 |

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| | |
|---|---|
| Name: | User Request Evaluation Tool |
| Acronym: | URET |
| Description: | On 01 June 2006 the FAA announced the final deployment of the User Request Evaluation Tool (URET). With initial daily use (IDU) at Miami Air Route Traffic Control Center (ARTCC), ICAO Code KZMA, URET is now operational at all 20 FAA Air Route Traffic Control Centers (ARTCC) in the 48 contiguous states.<br><br>The User Request Evaluation Tool (URET) is a conflict probe decision support system. URET provides four key capabilities to Air Route Traffic Control Center (ARTCC) facilities: (1) Aircraft-to-aircraft conflict detection, (2) Aircraft-to-airspace conflict detection, (3) Evaluation of user or controller request for flight plan amendments or route changes; and (4) Enhanced flight data management. This tool allows controllers to determine whether requests for direct routes can be approved without conflicting with other flights or airspace restrictions.<br><br>URET began deploying nationally in FY 2003. No software builds are contemplated after FY 2006. |
| State: | In-Service |
| Primary Roadmap: | Automation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route |
| Update Date: | 20-Mar-2010 by Keith Talbert |
| ID / Revision: | 207 / 6 |

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| | |
|---|---|
| Name: | Vertical Required Navigation Performance (Baro) |
| Acronym: | RNP - Vert (Baro) |
| Description: | TBD |

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 05-Apr-2010 by Cindy Magee

ID / Revision: 833 / 4

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Name: Very High Frequency Digital Link-2 Avionics

Acronym: VDL-2 Avionics

Description: Very High Frequency (VHF) Digital Link-2 Avionics (VDL-2 Avionics) consist of airborne radios operating in the VHF range that receive and transmit data using a low-speed, bit-oriented protocol and Carrier Sense Multiple Access (CSMA).

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 05-Mar-2010 by Cindy Magee

ID / Revision: 57 / 3

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Name: Very High Frequency Ground Radios

Acronym: VHF Ground Radios

| | |
|---|---|
| Description: | Very High Frequency (VHF) Ground Radios are analog VHF amplitude modulation (VHF - AM) single-channel transceiver radio devices operating in the 118 - 137 MHz frequency band. The VHF ground-based radios directly support tactical air traffic control (ATC) voice communications and coordination between the ATC controllers and pilots in all flight domains (EnRoute, Arrival/Departure, and Surface).<br><br>Additionally, there are analog VHF frequency modulation (VHF - FM) radio devices operating in the 161 - 174 MHz frequency band that are multi-channel transceivers. These transceivers are used by Flight Inspection, Aviation Security, and Airway Facilities specialists supporting local airport operations and maintenance, and operational mission activities in support of the National Airspace System (NAS). Emergency situations and disaster recovery operations are also supported by the VHF - FM radios. |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, Flight Service, Surface, Terminal |
| Update Date: | 05-Mar-2010 by Cindy Magee |
| ID / Revision: | 147 / 6 |

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| | |
|---|---|
| Name: | Very High Frequency Handheld Radios |
| Acronym: | tbd |
| Description: | tbd |
| State: | In-Service |
| Primary Roadmap: | Communications |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 951 / 3 |

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| | |
|---|---|
| Name: | Very High Frequency Multi-Mode Airborne Radios |

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|---|---|
| Acronym: | VHF MM Airborne Radios |
| Description: | Very High Frequency Multi-Mode Airborne Radios (VHF MM Airborne Radios) refer to an airborne radio operating in the very high frequency (VHF) range capable of operating in the following modes: (1) analog voice (i.e., 25 kHz spacing for use in the United States and other similarly equipped countries); (2) VHF Digital Link Mode 2 (VDL Mode-2) (two-way digital data transmission); (3) VHF Digital Link Mode 3 (VDL Mode-3), (integrated two-way digital voice/data transmission); and (4) analog voice (i.e., 8.33 kHz spacing for use in Europe and other similarly equipped countries). |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 240 / 2 |

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| | |
|---|---|
| Name: | Very High Frequency Omnidirectional Range |
| Acronym: | VOR |
| Description: | The Very High Frequency Omnidirectional Range (VOR) is a ground-based radio navigation aid that broadcasts azimuth information to aircraft. VORs broadcast on assigned channels and include the facility identification in Morse code for pilot monitoring and verification. Some VORs are capable of broadcasting weather information and supporting pilot-controller communications although these capabilities are typically provided by other systems. In addition to providing en route and terminal area azimuth guidance, VORs also support nonprecision instrument approach operations.<br><br>Currently, VORs are the primary radio navigation aid in the National Airspace System (NAS). They serve as the internationally designated standard short-distance radio navigation aid for air carrier and general aviation Instrument Flight Rules (IFR) operations.<br><br>VORs may be installed stand-alone or co-located with either a Distance Measuring Equipment (DME) or Tactical Air Navigation (TACAN) system. When co-located the facility is typically referred to as a VOR/DME or VORTAC (TACAN co-located with VOR) facility, respectively. This configuration allows pilots to determine their aircraft's bearing and distance to a single location, i.e., a position fix.<br><br>With the advent of satellite-based navigation capabilities, a planned reduction in operational VORs will begin in approximately 2010. The reduction will result in a minimum operational network (MON) of VORs that will support IFR operations at the busiest airports in the NAS while serving as a backup for satellite-based navigation.<br><br>There are approximately 1,000 VORs in the NAS which are not all shown below. |
| State: | In-Service |
| Primary Roadmap: | Navigation |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |

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|---|---|
| Update Date: | 05-Apr-2010 by Cindy Magee |
| ID / Revision: | 103 / 8 |

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| | |
|---|---|
| Name: | Very High Frequency Omnidirectional Range Avionics |
| Acronym: | VOR Avionics |
| Description: | Very High Frequency Omnidirectional Range Avionics (VOR Avionics) receive, process, and display the azimuth (bearing) to a VOR ground station. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |
| ID / Revision: | 185 / 2 |

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| | |
|---|---|
| Name: | Very High Frequency Omnidirectional Range Test |
| Acronym: | VOR-Test |
| Description: | A ground facility, which emits a test signal to check Very High Frequency Omnidirectional Range (VOR-T) receiver accuracy. Some VOR-Ts are available to the user while airborne, and others are limited to ground use only. The airborne use of VOT is strictly limited to those areas/altitudes specifically authorized in the Airport/Facilities Directory (A/FD) or appropriate supplement. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 12-Nov-2009 by Data Load |

ID / Revision: 100 / 2

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Name: Virtual Integrated Enterprise Warehouse

Acronym: VIEW

Description: tbd

State: Planned

Primary Roadmap: Automation

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 20-Mar-2010 by Keith Talbert

ID / Revision: 952 / 5

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Name: Visual ARTS IIIa

Acronym: Visual IIIA

Description: TBD

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 14-Apr-2010 by Steve Amato

ID / Revision: 993 / 1

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| | |
|---|---|
| Name: | Visual Approach Slope Indicator |
| Acronym: | VASI |
| Description: | A Visual Approach Slope Indicator (VASI) system is a light system that is accurately located alongside a runway to provide a visual glide slope to landing aircraft. VASIs radiate a directional pattern of high intensity, red and white focused light beams to form the glide path and are utilized primarily under Visual Flight Rules (VFR) conditions. |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 02-Mar-2010 by Cindy Magee |
| ID / Revision: | 95 / 3 |

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| | |
|---|---|
| Name: | Visual Common ARTS |
| Acronym: | Visual CARTS |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 995 / 1 |

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| | |
|---|---|
| Name: | Visual Micro-EARTS |

| | |
|---|---|
| Acronym: | Visual MEARTS |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 996 / 1 |

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| | |
|---|---|
| Name: | Visual STARS |
| Acronym: | Visual STARS |
| Description: | TBD |
| State: | In-Service |
| Primary Roadmap: | - Not Available - |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | None |
| Update Date: | 14-Apr-2010 by Steve Amato |
| ID / Revision: | 997 / 1 |

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| | |
|---|---|
| Name: | Voice Switching and Control System |
| Acronym: | VSCS |

Description: The Voice Switching and Control System (VSCS) provides the Air Route Traffic Control Center (ARTCC) air traffic controller with ground/ground voice switching intrafacility (intercom) and interfacility communications and remote control access to air/ground radio equipment for controller-to-pilot communications. The VSCS replaced the aging ground-to-ground switching equipment and the air-to-ground circuits with a single integrated, computer-controlled, digital voice switching system, which greatly improves air traffic safety with clearer voice communications. The VSCS provided as government furnished property (GFP) communications requirement for inclusion in the common console in the Display System Replacement (DSR). Delivery and implementation of the VSCS Training and Backup System (VTAB) and VSCS Console Equipment (VCE) will be completed.

Note:
This VSCS mechanism was transitioned to the VSCS Tecnology Refresh Phase 1 (VSCS TR P1) mechanism.

State: In-Service

Primary Roadmap: Communications

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 25-Feb-2010 by Cindy Magee

ID / Revision: 652 / 4

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Name: Voice Switching and Control System : Training and Backup System

Acronym: VTABS

Description: Voice Switching and Control System Training and Backup Switch (VTABS) was developed to meet AT requirements for a separate standalone VSCS Backup and Training System. VTABS can be configured as a 50-position switch with the capability to support air traffic operations in the event of VSCS failure, hardware and software maintenance or power loss.

The VSCS Technology Refreshment Phase 2 upgrade funding will replace the VTABS with modern power equipment.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): En Route

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 324 / 2

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| | |
|---|---|
| Name: | WARP FAA Bulk Weather Telecommunications Gateway |
| Acronym: | WARP FBWTG |
| Description: | The FAA Bulk Weather Telecommunications Gateway (FBWTG) provides the FAA communications interface to the National Weather Service (NWS) Telecommunications Gateway for the acquisition of gridded model weather products. The FBWTG is a module of the WARP at the ATCSCC.<br><br>The weather products are used by the Weather and Radar Processor (WARP), Integrated Terminal Weather System (ITWS). The FBWTG also provides information transfer and delivery for airborne weather observations (from the Meteorological Data Collection and Reporting System (MDCRS)) used by ITWS.<br><br>The Aviation Weather Center in Kansas City, MO. uses the communications gateway to delivery weather advisories and information of hazardous products to the NAS. |
| State: | In-Service |
| Primary Roadmap: | Weather |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | TFM |
| Update Date: | 25-Feb-2010 by Cindy Magee |
| ID / Revision: | 215 / 4 |

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| | |
|---|---|
| Name: | WARP Weather Information Network Server |
| Acronym: | WARP WINS |
| Description: | WINS is the dissemination module of the WARP system that provides an interface to various NAS Users/systems that require weather data/products/information from WARP as needed. In addition, it provides for WARP to WARP connectivity for exchange of weather information between the ARTCCs.<br><br>WINS is located at each ARTCC as part of the WARP configuration. |
| State: | In-Service |
| Primary Roadmap: | Weather |
| Secondary Roadmap(s): | None |
| Flight Domain(s): | En Route, TFM |
| Update Date: | 25-Feb-2010 by Cindy Magee |

ID / Revision: 694 / 4

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Name: Wake Turbulence Mitigation : Arrivals (CSPR)

Acronym: WTMA (CSPR)

Description: Independent parallel approaches can be conducted to Closely Spaced Parallel Runways (CSPRs) with runways spaced at least 700 ft apart. Currently Air Traffic Control procedures require CSPRs to be treated as a single runway during less than visual conditions. In trail wake turbulence separation standards must be applied between successive arrivals to the parallel runways as well as between consecutive arrivals to the same runway in less than visual conditions, thus reducing runway capacity to that of a single runway. A change to the 2500 ft rule is anticipated for approaches to these CSPRs in less than visual conditions. This change will permit 1.5 NM diagonal separation between a Small or Large aircraft arriving on one runway and any trailing aircraft arriving on the parallel runway.

Wake Turbulence Mitigation for Arrivals (WTMA) will provide an alternative to handle the shortfall when Heavy or B757 aircraft are leading. An operational solution would require a tactical wind prediction and monitor function for winds along the arrival corridor. A strategic weather function for planning horizon and stability of operations will be required to ensure usability and reliability. These functions will support a reliable wind forecast algorithm (WFA) that can be utilized by ATCs to manage and use CSPRs for maximum capacity. A decision support tool will inform the controller when conditions are stable and sufficient to permit distances down to 1.5 NM diagonal separation between an arrival to one runway and a trailing aircraft arriving on the parallel runway when Heavy or B757 aircraft are leading.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 07-Apr-2010 by Cindy Magee

ID / Revision: 750 / 6

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Name: Wake Turbulence Mitigation : Departures (CSPR)

Acronym: WTMD (CSPR)

Description: Currently Air Traffic Control procedures require wake turbulence separation to be applied between successive departures from Closely Space Parallel Runways (CSPRs). ATC follows strict wake turbulence separation standards for CSPR and provide authorization for each aircraft in the queue for takeoff.

During threshold departures such as at IAH 15L/R when the lead aircraft is a Heavy or B757, the trailing aircraft may be restricted to 2 min delay or 4-5nm separation [in lieu of the 2 min separation standard]. The delay increases for displaced thresholds such as at STL 12L/R when the lead aircraft is a Heavy or B757 where the trailing aircraft is restricted to 3 min delay. The separation standards when trailing a Heavy or B757 is 2 min to 3 mins or 4-5 nm of separation, most facilities use the 4-5 nm standard. This gives ample distance for leading aircraft's wake to dissipate. These wake turbulence separations restrict departure capacity at CSPR airports in proportion to the percentage of Heavy and B757 aircraft in the departure mix, which can result in delays throughout the NAS. However, stable wind conditions can enable ATC to allow the trailing aircraft to depart independent of the current wake turbulence separation standards, particularly if prevailing runway cross-winds can move the wake turbulence away from the runway of the trailing aircraft.

WTMD provides an operational solution and requires a tactical wind prediction and monitor function for the next departure as well as a strategic weather function for planning horizon and stability of operations to ensure usability and reliability. WTMD has a wind forecast algorithm (WFA) that can be used by ATC to manage and use CSPRs for maximum capacity. Present plans are to use the hourly forecast winds from the RUC (Rapid Update Cycle) model as well as 1-minute or 5-minute wind data from the airport ASOS. The CRD phase was completed in early March '08 and the program now moves into the Investment Analysis phase.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 07-Apr-2010 by Cindy Magee

ID / Revision: 749 / 6

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Name: Wake Turbulence Mitigation : Single Runway

Acronym: WTMSR

Description: Currently Air Traffic Control procedures require wake turbulence separation to be applied between successive departures from the same runway. Aircraft departing assume normal pre-flight procedures and are given authorization for takeoff. ATCs follow strict wake turbulence separation standards after departing Heavy or B757 aircraft and provide authorization for each aircraft in queue for takeoff. During same threshold departures when the lead aircraft is a Heavy or B757 the trailing aircraft is restricted to 2 min delay or 4-5nm in lieu of the 2mins separation standard. The delay increases for trailing aircraft departing from a runway intersection more than 500 feet displaced from the threshold used by the Heavy or B757 aircraft such that the trailing aircraft is restricted to 3 min delay. The separation standards when trailing a Heavy or B757 is 2min to 3mins or 4-5 nm of separation most facilities use the 4-5 nm standard. This gives ample distance for leading aircraft's wake to dissipate. These wake turbulence separations restrict departure capacity for single runway operations at airports in proportion to the percentage of Heavy and B757 aircraft in the departure demand fleet mix, and affect delays throughout the National Airspace System (NAS). However, stable wind conditions can allow aircraft under certain conditions to depart independent of the wake turbulence separation standards. Cross-wind and other meteorological conditions and wake behavior (including wake descent) can influence the hazard of the wake turbulence generated by the leading aircraft, allowing trailing the aircraft to not be concerned about wake vortex from leading aircraft. Arrival operations to the same runway are similarly restricted by wake turbulence separation minima during less than visual conditions.

Wake Turbulence Mitigation for Single Runway (WTMSRD/A) will provide an alternative to handle the capacity shortfalls in the current single runway departure and arrival procedures. An operational solution would require a tactical wind/weather prediction and monitor function for the next departure and also along the runway approach corridor. A strategic weather function for planning horizon and stability of operations is required to ensure usability and reliability. These functions will support a reliable wind forecast algorithm (WFA) that can be utilized by ATCs to manage and use single runways for maximum capacity. The decision support tools envisioned for controllers to apply reduced separation between single runway departures will build upon the technologies and designs that support WTMD for CSPR operations. The decision support tools envisioned for controllers to apply reduced separation between single runway arrivals will build upon the technologies and designs that support WTMA for CSPR operations.

State: Planned

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 07-Apr-2010 by Cindy Magee

ID / Revision: 751 / 6

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Name: Weather Avionics

Acronym: Wx Avionics

Description: The Weather Avionics (Wx Avionics) mechanism refers to devices that receive weather data in alphanumeric or graphical format from ground-based systems (e.g., Flight Information Service (FIS), Terminal Weather Information for Pilots (TWIP)) and process it for display in the cockpit. The display may be a standalone unit or be integrated into a multifunction display (MFD).

State: Not Set

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 132 / 2

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Name: Weather Message Switching Center Replacement

Acronym: WMSCR

Description: The Weather Message Switching Center Replacement (WMSCR) is the primary National Airspace System (NAS) interface with the National Weather Service (NWS) Telecommunications Gateway (NWSTG) for the exchange of aviation alphanumeric and limited gridded weather products. WMSCR collects, processes, stores, and disseminates aviation weather products to major NAS systems, the airlines, and international and commercial users. WMSCR also provides storage and distribution of domestic Notice To Airmen (NOTAM) data and retrieval of international NOTAMs through the Consolidated NOTAM System (CNS).

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 01-Mar-2010 by Cindy Magee

ID / Revision: 135 / 4

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Name: Weather Radio

Acronym: Wx Radio

Description: This a Public Alert certified weather radio that keeps Airport Traffic Control Tower (ATCT) controllers informed of hazardous weather information from the NWS so that they may more safely handle air traffic when severe weather approaches the Terminal area. The radio monitors the National Oceanic and Atmospheric Administration (NOAA) weather band radio 7/24 and provides warnings of hurricane and tornado warnings in addition to several other extreme weather events. This radio automatically sounds a loud alert tone for emergency conditions in the local area when severe weather and other emergency conditions arise.

Additional information at https://employees.faa.gov/org/linebusiness/ato/news/headquarters/story/index.cfm?newsId=52851

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 776 / 2

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Name: Weather and Radar Processor

Acronym: WARP

Description: The Weather and Radar Processor (WARP) will undergo a Limited Tech Refresh to begin replacing hardware and software components necessary to continue sustaining its capabilities. This enables WARP to continue receiving weather products from a variety of sensors/sources and then process, display, and disseminate tailored, enhanced weather products to Air Traffic Supervisors and Traffic Managers on briefing terminals; and to en route controllers displays such as Display System Replacement (DSR). WARP will continue to disseminate such information to En Route Automation Modernization (ERAM), Advanced Technologies and Oceanic Procedures (ATOP), and Micro-En Route Automated Radar Tracking System (Micro-EARTS).

In addition, WARP will disseminate gridded weather data to automation systems including User Request Evaluation Tool (URET), Dynamic Ocean Tracking System Plus (DOTS+), Flight Data Processor 2000 (FDP2K) and ATOP. Future interfaces may include Traffic Flow Management-Modernization (TFM-M), Center Terminal Radar Approach Control (TRACON) Automation System (CTAS)/Traffic Management Advisor (TMA)/Descent Advisor (DA).

This Limited Tech Refresh also improves WARP dissemination capabilities making it SWIM compatible for exchanging weather information including sensor inputs and product outputs to users enabling it to be sustained until its functionality is incorporated into the NextGen Wx Processor WP1.

State: In-Service

Primary Roadmap: Weather

Secondary Roadmap(s): Enterprise Services

Flight Domain(s): En Route, TFM, Terminal

Update Date: 09-Mar-2010 by James Grant

ID / Revision: 319 / 9

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Name: Western Electric Company Model 301 Voice Switch

Acronym: WECO 301

Description: The Western Electric Company Model 301 Voice Switch (WECO 301) supports air-to-ground communications between air traffic controllers and pilots and ground-to-ground communications among air traffic control (ATC) personnel.

State: Decommissioned

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): None

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 35 / 2

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Name: Wide Area Multi-Lateration

Acronym: WM/LAT

Description: Wide Area Multi-Lateration (WM/LAT) is a limited implementation of the multi-lateration technology, derived from the Airport Surface Detection Equipment Model X (ASDE-X), to support air traffic control operations a few airports in Colorado with data feeds to the Denver ARTCC. WM/LAT operation provides air traffic surveillance coverage in areas with restricted low altitude radar coverage due to mountainous terrain or no radar coverage. The FAA is evaluating WM/LAT operations between 2007 and 2010.

WM/LAT operations will be extended to Juneau, Alaska. WM/LAT services Juneau, Alaska will be implemented as part of the ADS-B implementation under the SBS Program. WM/LAT services may be extended to other areas in the Western Continental United States (CONUS) with restricted radar coverage. An FAA decision is pending in 2010 on NAS-Wide deployment of ADS-B which would extend ADS-B service throughout the NAS. SBS implementation of ADS-B related services may subsume WM/LAT operations.

Decommission and End of Service dates are based on the assumption that NAS-Wide Deployment of ADS-B services would likely replace WM/LAT. The ADS-B Backup Strategy projects complete removal of targeted legacy surveillance systems, per between FY 2016 and 2023. WM/LAT operations are partially or fully funded by local airport transportation authorities that would participate in decisions to end the service.

State: Planned

Primary Roadmap: Surveillance

Secondary Roadmap(s): Facilities
Surveillance

Flight Domain(s): En Route, Terminal

Update Date: 03-Feb-2010 by James Grant

ID / Revision: 746 / 15

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Name: Wind Hazard Detection Equipment

Acronym: Wind Tracer

Description: The Wind Hazard Detection Equipment (called Wind Tracer) is to be installed at Las Vegas' McCarran airport. It will use laser-driven equipment to help identify and alert to wind and wind shear hazards (dry microbursts/wind shear) in dry and clear air in the terminal area. It also enables detection and alerting of gust fronts that emanate from distant thunderstorms which cause unanticipated runway wind shifts impacting both safety and operations.

State: In-Service

Primary Roadmap: - Not Available -

Secondary Roadmap(s): None

Flight Domain(s): Surface

Update Date: 12-Nov-2009 by Data Load

ID / Revision: 795 / 2